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AMERICAN Cinematographer

THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY

In This Issue . . .

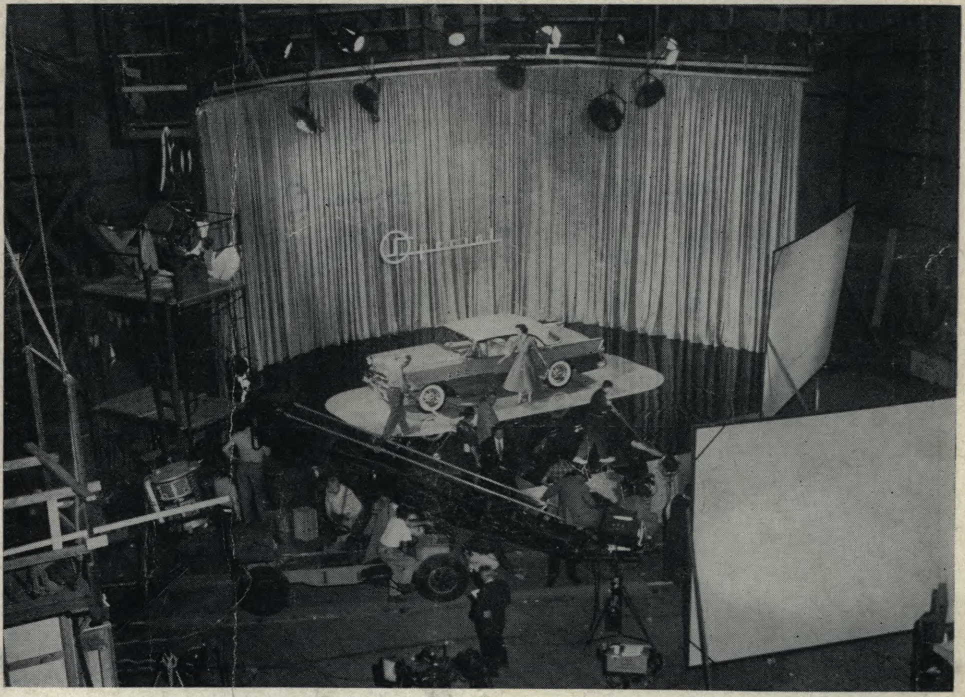
Cinematography In Parachute Research.

Filming A 'Round-The-World Cruise.

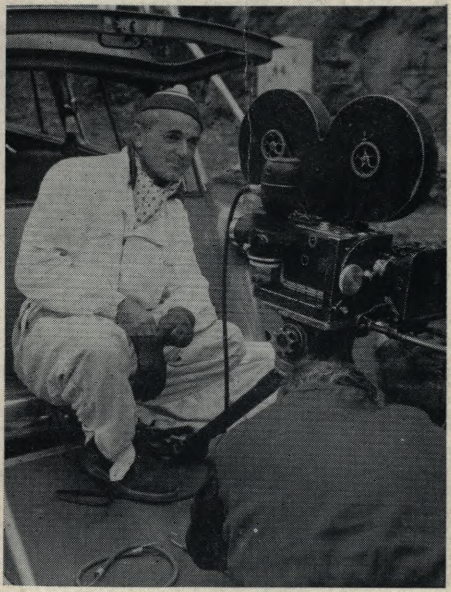
College Crew Makes Training Films.

Something New In Camera Cranes.

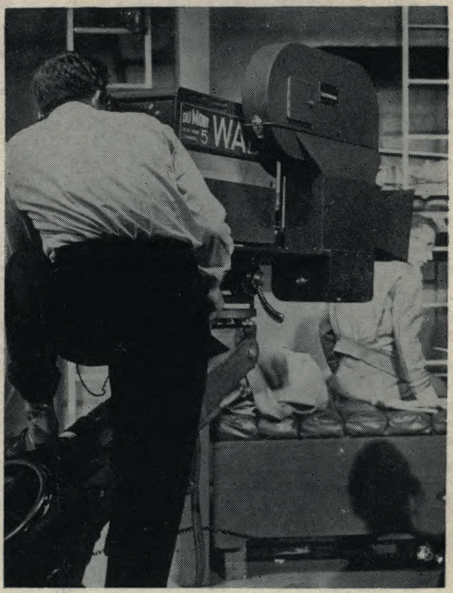
Small Objects, Big Closeups.



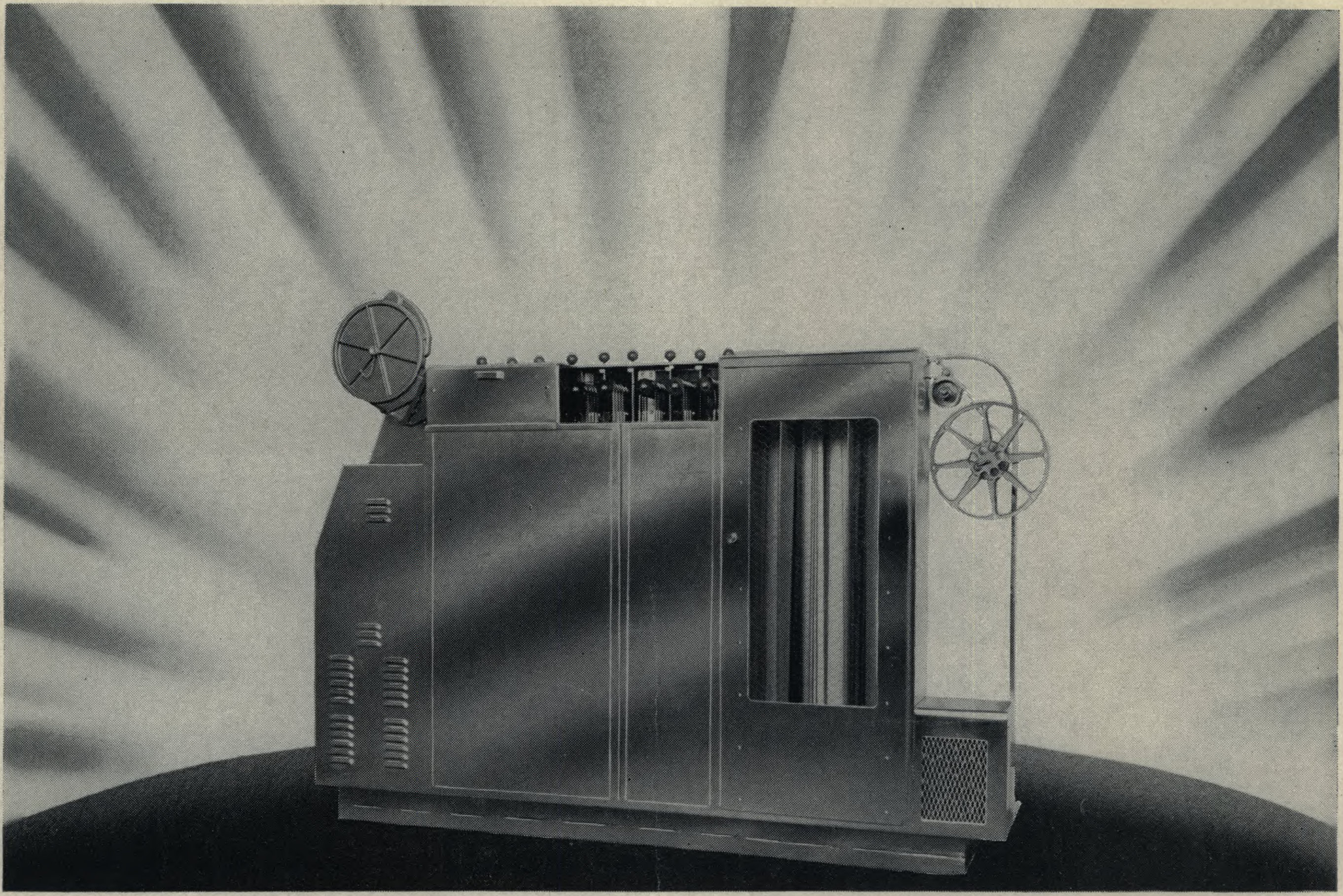
Filming Buick TV commercials. Story on page 278



Frank Phillips—the cameraman who photographed the race thrills for "The Racers." Story on Page 272.



"Electronicam" TV-film camera televises and films a program simultaneously. Descriptive story begins on Page 280.



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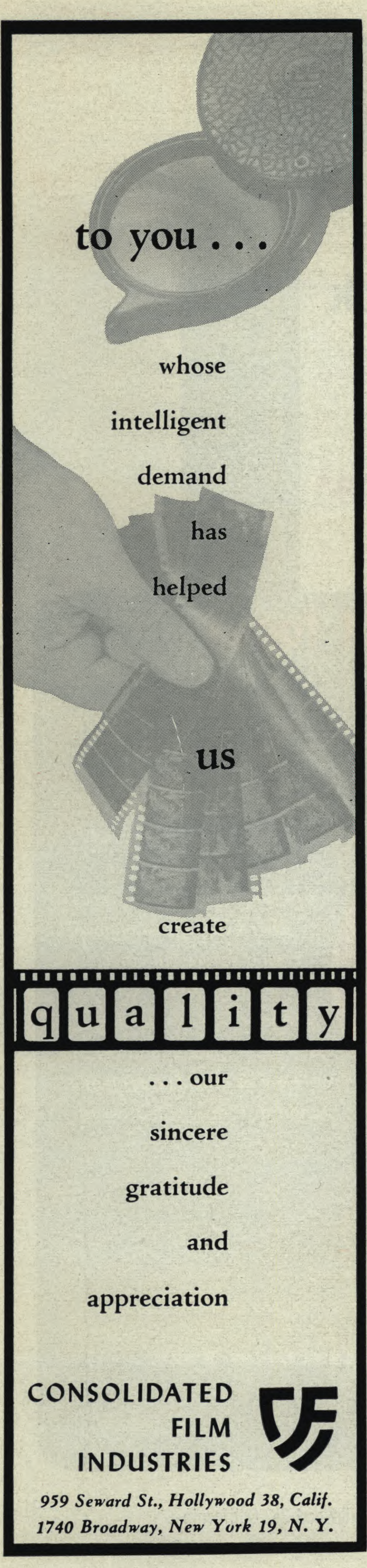

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Cinematographer

THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY
PUBLICATION OF THE AMERICAN SOCIETY OF CINEMATOGRAPHERS

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Marion Hutchins, *Editorial Assistant* Emery Huse, *Technical Editor*

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Telephone: HOllywood 7-2135

VOL. 36 MAY • 1955 NO. 5

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AMERICAN CINEMATOGRAPHER, established 1920, is published monthly by the A. S. C. Agency, Inc., 1782 N. Orange Dr., Hollywood 28, Calif. Entered as second class matter Nov. 18, 1937, at the postoffice at Los Angeles, Calif., under act of March 3, 1879. SUBSCRIPTIONS: United States and Canada, $3.00 per year; Foreign, including Pan-American Union, $4.00 per year. Single copies, 25 cents; back numbers, 30 cents; foreign single copies, 35 cents; back numbers, 40 cents. Advertising rates on application.

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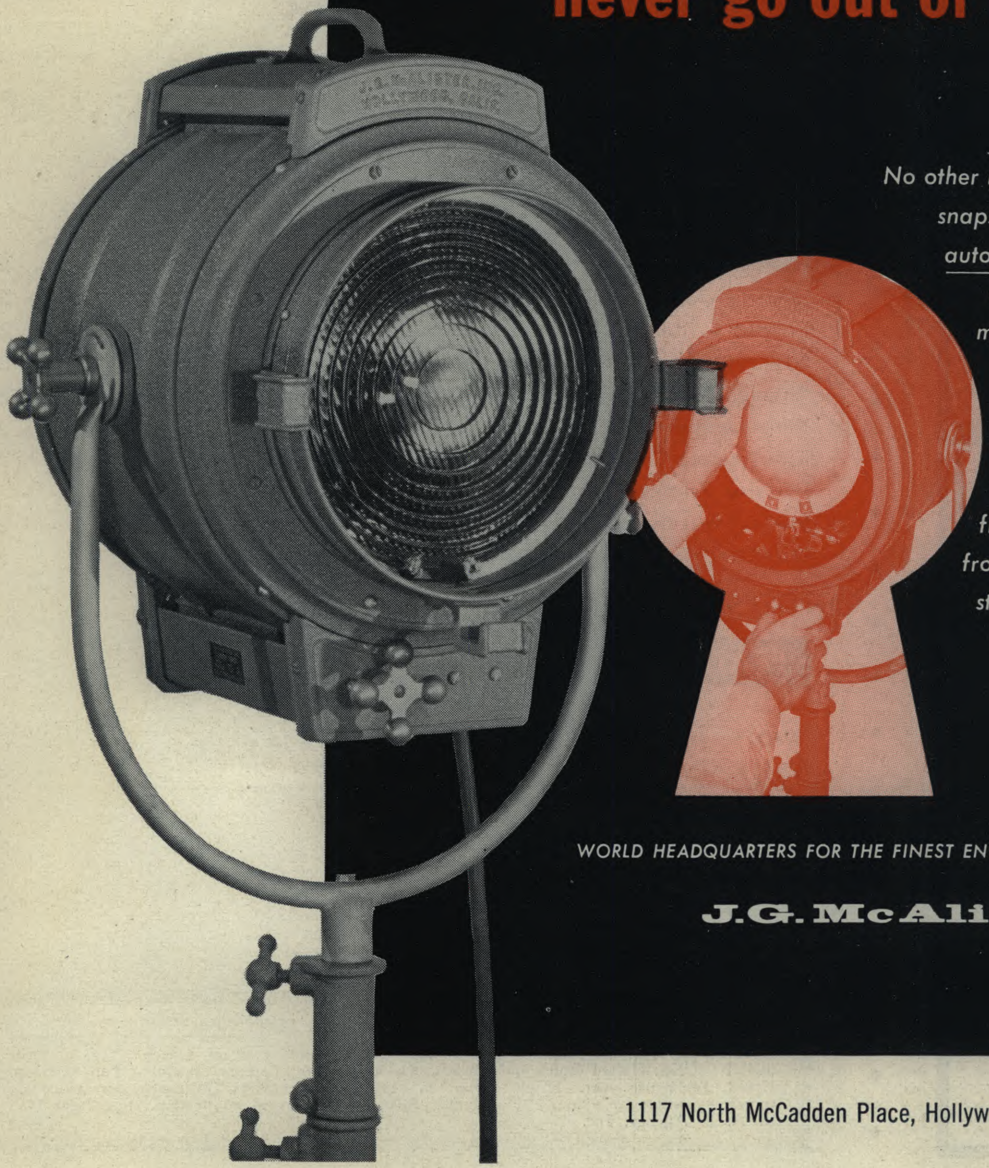

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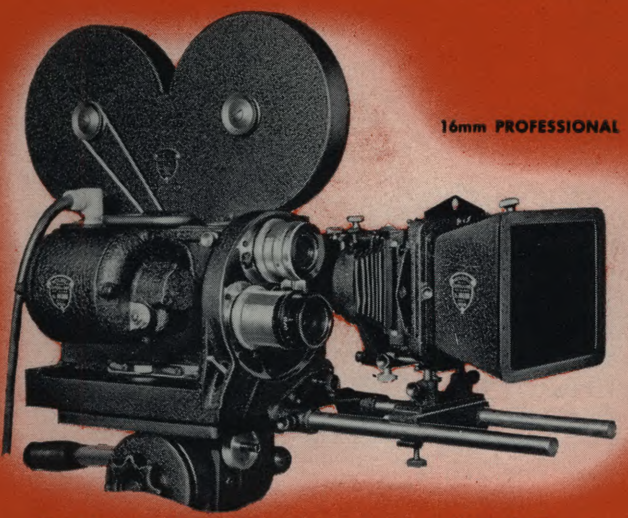

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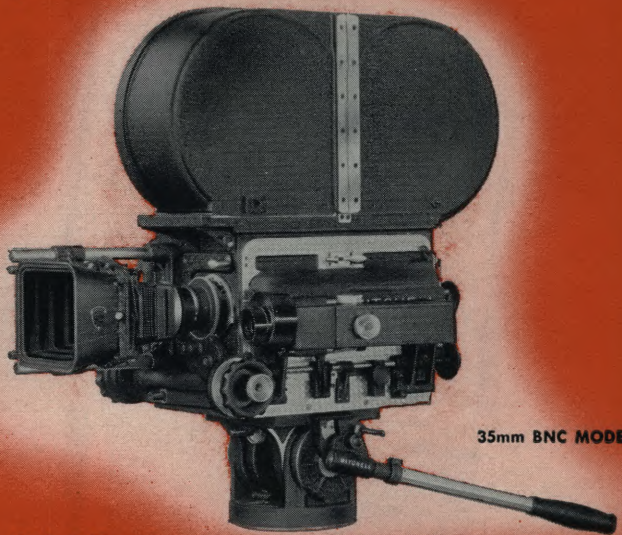

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INDUSTRY NEWS

The trend to larger negatives and larger frame dimensions marked developments in the technical realm of the motion picture industry last month.

On April 21, Earl I. Sponable, research director for 20th-Century-Fox, announced that studio's development of a new photographic process for shooting Cinema-Scope pictures on film 55mm in width instead of the conventional 35mm film. The new 55mm frame area is said to have almost twice as much information recording surface as any other large frame process proposed to date. The new film (actually 55.625mm in size, but referred to simply as "55mm") is the optimum size for a negative image from the point of view of film grain and information storage ability, according to Eastman Kodak and Bausch & Lomb engineers who have tested the negative. The new film size has four times the area of the present CinemaScope negative.

It was just a little over 35 years ago that Fox launched the famous "Grandeur" 70mm film, marking the first attempt in this century to introduce wide-screen and large frame film for motion pictures.

Subsequent to Mr. Sponable's announcement, Twentieth Century-Fox revealed that it would roadshow its top calibre productions, such as "The King and I" and "The Greatest Story Ever Told" with 55mm prints.

★

Metro-Goldwyn-Mayer was right behind Fox in the move to wide film. Just a few days after the Sponable announcement, E. J. Mannix, studio manager, announced that Metro would switch to 65mm photography for all its top productions. MGM's 65mm shooting system will employ conventional cameras with mechanisms adapted to handle the double-size negative. The cameras will use the APO Panatar lenses developed by Panavision. Nothing was implied in Mannix's announcement that this switch to large area negative would finally bring to light the horizontal film travel camera which John Arnold, the studio's camera department head, has developed and which has been under wraps for over two years. This camera, which utilizes interchangeable film movements and apertures, will photograph a negative in a wide range of aspect ratios, from the standard "3 by 4" up to frames ten sprocket holes in width.

Harry E. Pratt, for twenty-eight years a member of the W. J. German, Inc. organization, which distributes Eastman professional motion picture film, has been elected vice-president of the company in charge of television film sales.

Pratt, with his assistant, Ernest Lovingood flew to New York early in April to attend conference with president William German and members of the company's executive staff in Ft. Lee, N. J.

★

Removal to new and more spacious quarters has been announced by Neumade Products Corp., one of the leading manufacturers of motion picture production and film storage equipment. On May 9th, company will take possession of its new quarters in the Fisk Building, 250 West 57th Street, New York City.

Oscar F. Neu, head of the company, is also the founder of the Theatre Equipment and Supply Manufacturers' Association, having served as president for six consecutive years.

★

At the end of the first eleven days of shooting MGM's "Trial," the production was already a day and a half ahead of schedule and the company expected to shave footage about 2000 feet, according to Robert Surtees, ASC, director of photography on the production.

Reason is that director Mark Robson is devoting more time to rehearsals with consequent savings in production costs. "It affords me more time to work out camera angles, too," said Surtees.

★

An electronic test panel for use in checking out and locating malfunctions in the most complex of the new cameras and camera equipment has been installed by Gordon Enterprises, North Hollywood, Calif. Operation of panel controls is similar to that of a dial telephone. Dialing a number actuates a series of circuits which adjusts the mechanism of the panel to the electrical characteristics of the camera being checked.

★

A new activity, which will concentrate on design, research and production of special, rapid film processiog equipment for military and commercial application has been activated by Fairchild Camera and Instrument Corp., Long Island, N. Y. It will be under the supervision of Charles N. Edwards who has been associated with photographic processing and processing equipment for the past twelve years.

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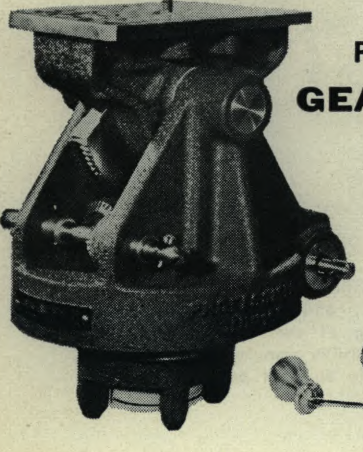

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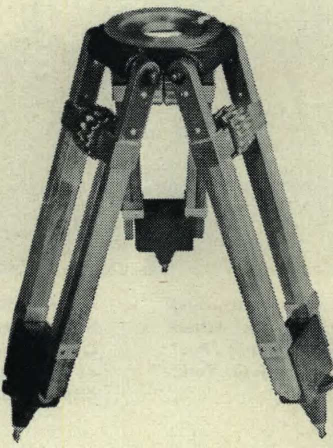
interchangeable with
Friction Head on
same tripod.



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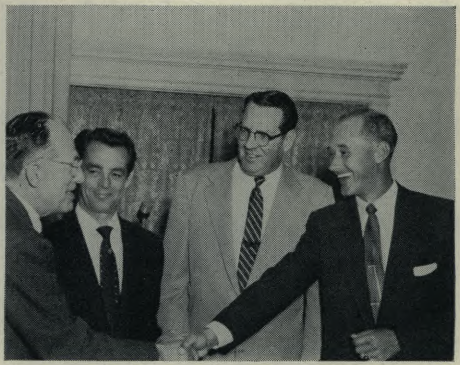
TRADITIONAL rite at the ASC Clubhouse, following presentation of the annual Academy Awards is this picture-hanging ceremony when the "Oscar" winning cameramen hang their photos on the ASC's "Wall of Fame." On left is 20th-Fox cameraman Milton Krasner. Hanging photo for absent Boris Kaufman is ASC president Arthur C. Miller. Occasion was April 11th meeting of the Society.

NEW MEMBERS recently admitted to American Society of Cinematographers are officially greeted by ASC president Arthur Miller, left. Members, from left to right, are: Gert Anderson (active), Stacey O'Brien (associate), and Leslie J. Baker (associate).



New Officers and Board members for 1955 were elected last month by the American Society of Cinematographers. Reelected president for a second term was Arthur C. Miller. Also reelected were Sol Halprin, 1st v-pres.; Alfred Gilks, 3rd v-pres.; Walter Strenge, treasurer; and Robert De Grasse, sgt.-at-arms. Charles G. Clarke was elected secretary, and William Skall, 2nd v-pres.

The following were elected to the Board of Governors: Ray Rennahan, Burnett Guffey, and Winton Hoch. Alternate Board members for 1955 are: Ellis Carter, Paul Eagler, Farciot Edouart, Irving Glassberg, Milton Krasner, Ernest Laszlo, Robert Pittack, John Seitz, James Van Trees, and Paul Vogel.

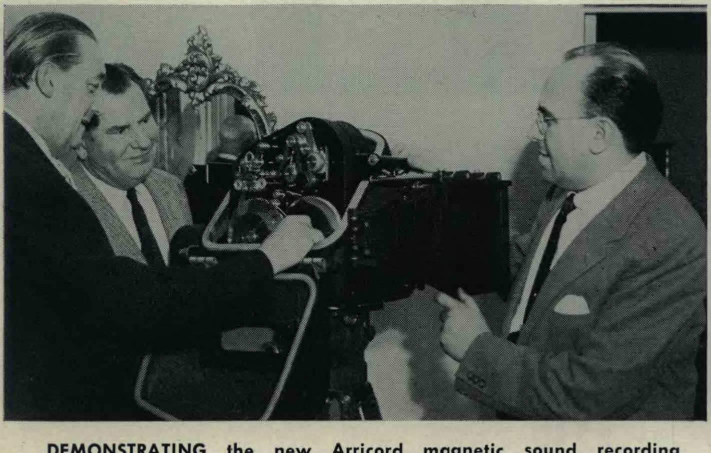
Installation ceremonies took place at the Society's Testimonial Dinner honoring Charter Members Arthur Edeson and Victor Milner (described elsewhere in this issue) on the evening of April 25th.

Leon Shamroy, ASC, veteran Fox director of photography and the man who has the distinction of shooting the first CinemaScope production, "The Robe," was signed to a new contract last month by Twentieth Century-Fox studio.

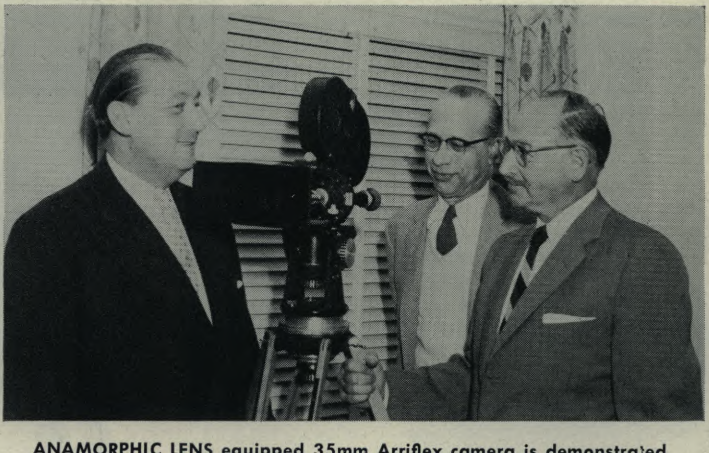
★

John Arnold, ASC, head of M-G-M's camera department, journeyed to New York last month to supervise special photography for a sequence in M-G-M's

(Continued on Page 270)



DEMONSTRATING the new Arricord magnetic sound recording camera to former ASC president Charles G. Clarke is Dr. Robert Richter (left), head of Arnold & Richter, Germany, and Paul Klingenstein (right), president of Kling Photo Corp., New York, distributors of Arriflex cameras and equipment.



ANAMORPHIC LENS equipped 35mm Arriflex camera is demonstrated by Dr. Richter to Ray Mercer, ASC, and Lester White, ASC. Occasion was recent monthly meeting of the American Society of Cinematographers when the new Arriflex cameras were put on display for first time for the industry's directors of photography.

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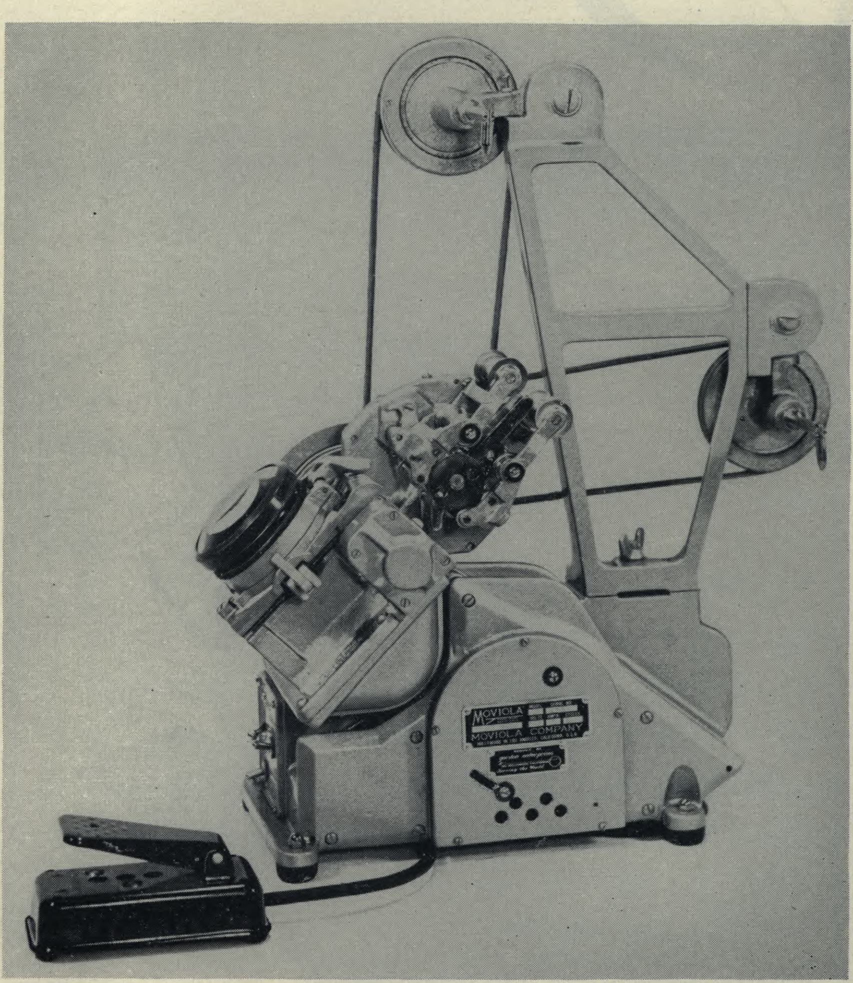

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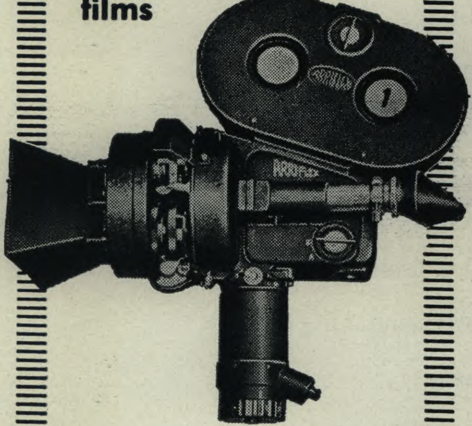

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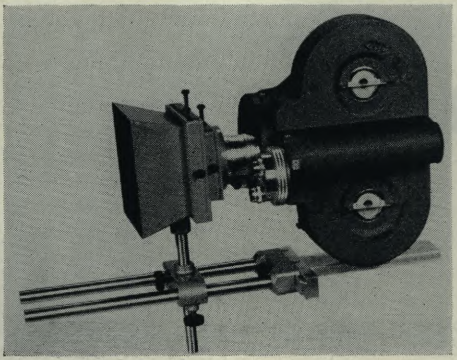
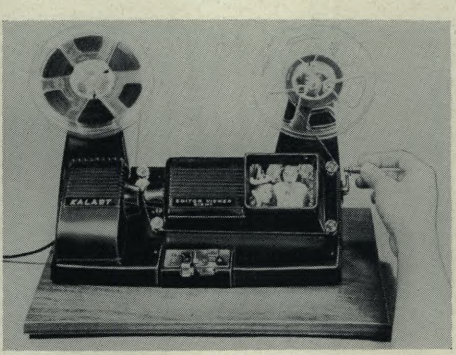


Matte Box

National Cine Equipment Co., Inc., 209 West 48th Street, New York 36, N. Y., announces a new combination matte box and sunshade for use with 8mm cine cameras and all professional and non-professional 16mm cameras. Unit provides for use of 2″ square and 3″ square glass or gelatine filters, and various effect devices such as gauzes, diffusion filters, effect filters, etc.

The matte box is made of aluminum castings. Support rods are of dural. The base will fit all cameras. A feature is that it may be used with the Cine-Special without the need for dismounting the camera whenever film magazines are to be changed. List price is $44.95. Descriptive literature is available.



8mm Viewer-Editor

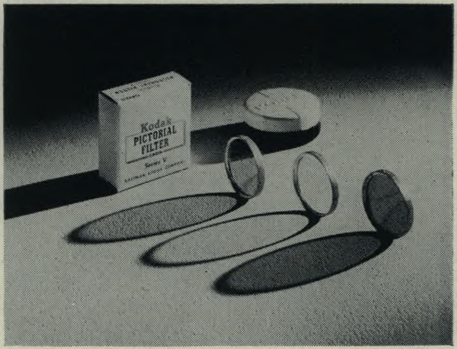
The Kalart Company, Inc., Plainville, Conn., announces a brand new viewer and editor for 8mm cine films, which accepts reels up to 400-ft. capacity. Unit includes built-in splicer, and includes bottle of film cement. Finished in Bakelite and mounted on polished hardwood base, a sturdy steel frame mounts all precision elements, including ground and polished condenser lenses, precision rotating prism, and flat field projection lens. A single, one-direction handle is especially geared for smooth film advance and rapid rewinding.

Kodak Pictorial Filters

Designed especially for use with black-and-white films such as Tri-X, Super-XX, etc., are the series of Kodak Pictorial Filters, available in yellow, red, and green, and manufactured by Eastman Kodak Company, Rochester, N. Y.

Designed to give black-and-white negatives greater contrast and realism, these new, inexpensive filters are made of solid optical glass and have high transmission accuracy.

The yellow filter darkens blue skies, emphasizes clouds, contrasts an object or figure against the sky, and gives a degree of haze penetration.



The red filter provides extreme contrast in scenes by greatly darkening skies, and it also cuts atmospheric haze. Its use is limited to pan and infrared films.

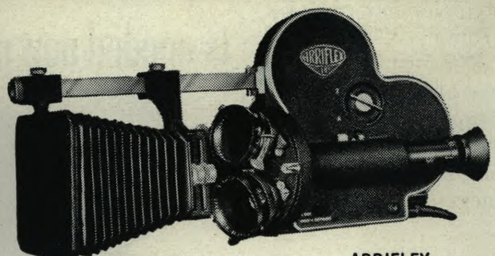
The green filter is used for natural reproduction of blossoms and foliage and for outdoor portraits against the sky. Its use is limited to pan film.

Packaged in attractive plastic containers, filters are priced as follows: Series IV (Yellow) $1.45; Series IV (red) $1.95; Series V (Green) $1.65.

New Type Microphone

Electrovert, Inc., 489 Fifth Ave., New York City, announces a new dynamic cardiod microphone especially designed for motion picture and television studios. Salient feature claimed for this European-made Model D-25 is its built-in

(Continued on Page 262)



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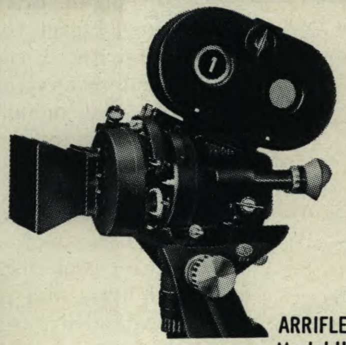
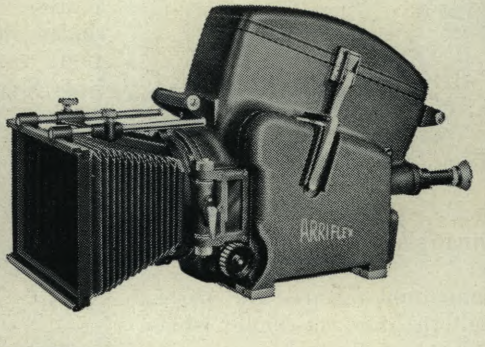
16mm Mirror Reflex Camera



ARRIFLEX
Model IIA
35mm Mirror Reflex Camera

the ARRI® story



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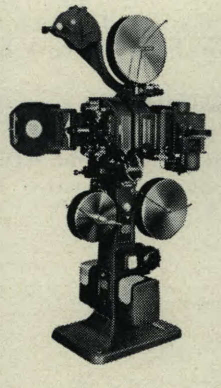

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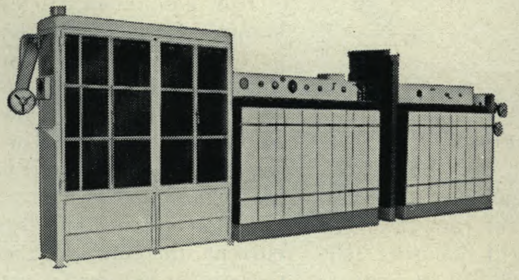
7303 Melrose Ave., Hollywood 46, Calif.

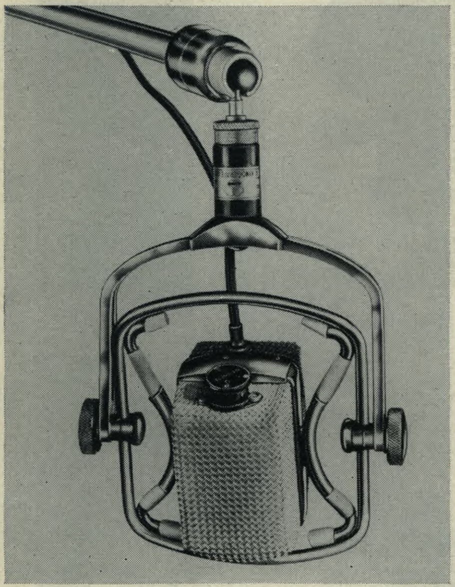


Film Processing Machines
16mm & 35mm—color and black-and-white

WHAT'S NEW

. . . in equipment, accessories, service

(Continued from Page 260)

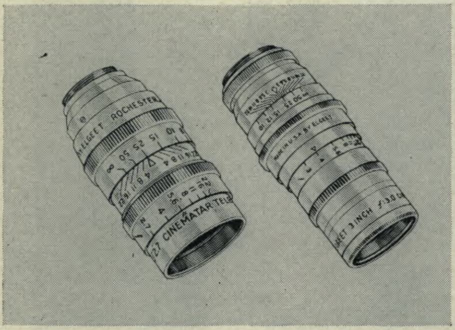


low-frequency equalizer which automatically eliminates all low-frequency rumble and hum.

Other important features are: perfect cardoid pattern; does not employ ribbon element; has excellent frequency response from 30 to 15,000 cycles; and is completely shock-mounted. Microphone is said to be ideally suited for use with tape recorders which do not have built-in equalizers.

Net price is $232.00. Without shock mount. $182.00.

The microphone is sold and serviced by Camera Equipment Company, 1600 Broadway, New York City.



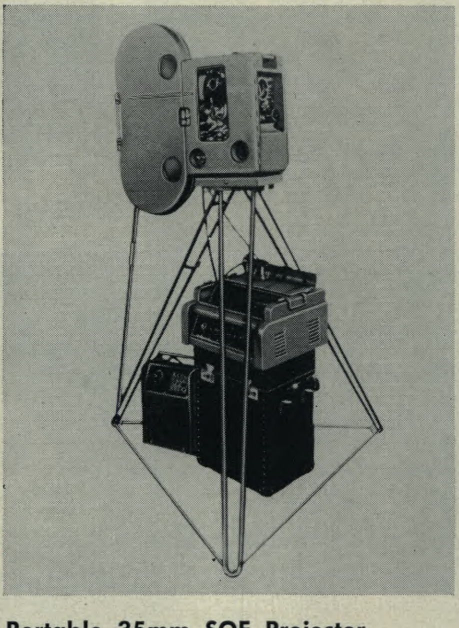
New Cine Camera Lenses

Elgeet Optical Co., 838 Smith St., Rochester, N. Y., announces two new Cinematar lenses for cine cameras. The first is a 38mm (1½″) focusing telephoto lens priced at $29.95. It features a depth-of-field scale, stops down to f/22, has hard coated lens elements, and satin chrome finish. It provides 3X magnification and will focus down to 3 feet. It comes in standard D-mount and can be adapted to the Bolex L-8, Univex Cinemaster, and the B&H 8mm tri-lens turret model cameras with conversion adapters.

Second lens is a 75mm (3″) focusing telephoto, priced at $47.50. This is the first Elgeet Cinematar made for 16mm cameras. It can be stopped down to f/22 and focused as close as 3 feet. It will fit all C-mount cameras. It can also be adapted to 8mm cameras.

J. G. McAlister Expands

J. G. McAlister, Hollywood manufacturer and distributor of motion picture lighting and production equipment, has expanded warehouse facilities, leasing an additional 10,000 square feet of floor space at 5418-20 Sierra Vista Ave., Hollywood. Firm will continue to manufacture at its 1117 No. McCadden Place address. Important new equipment includes the original dual-steering, all-angle camera dolly recently acquired from Stevens rentals, Hollywood.



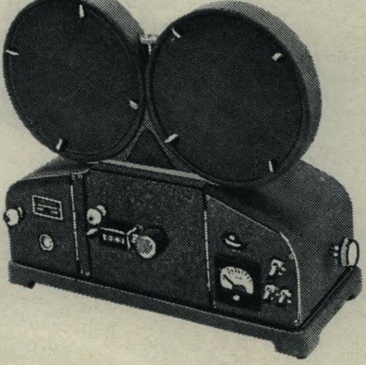
Portable 35mm SOF Projector

W. R. Mendels, Inc., 41 East 42nd St., New York 17, N. Y., are distributing the Phillips portable 35mm motion picture projectors in the U. S.

The equipment, pictured above, is known as model 8730/20, packs into six portable cases plus a canvas case for the stand. The accessory 10′ x 13′ screen and its collapsible frame pack into a second canvas case. The system can be assembled and put into use by one man in 10 minutes.

Motor operates on 40 to 60 cycles AC current; the entire film path is enclosed; there is an automatic cutoff of both projection lamp and motor in case of film interruption; incandescent lamp is used instead of arc; light output is 850 lumens.

Optical Recording
is needed now more than ever



THE LATEST
BLUE SEAL 35mm FILM RECORDER

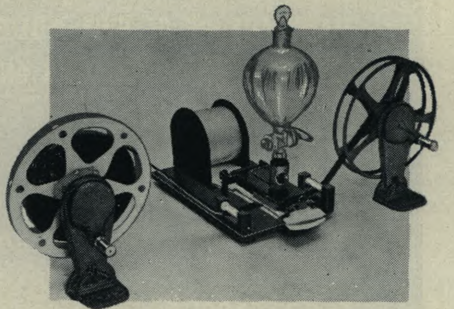
Do your own transfer or re-recording from magnetic or optical to 35mm film.

- Rotary film drum with stabilizer.
- Completely enclosed gear drive.
- Film footage counter.
- Synchronous motor 115V single phase or 220V 3 phase.
- Takes Bell & Howell type magazines.
- Precision machined throughout.

If you have a 16mm Auricon or Maurer you can also use your present amplifier equipment.

BLUE SEAL 35mm RECORDERS:

— without galvanometer; Reg. $5000	NOW	$2695
— with Auricon Modulite Galvmtr; Reg. $5500	NOW	3190
— with Maurer Neg./Pos. Dual Track; Reg. $7500	NOW	4645
— with Blue Seal variable area dual bi-lateral track galvanometer; Reg. $6500	NOW	3895
1000 ft. Film Magazines	EACH	165



Save time, money, film!

Ecco 1500 Speedrol
Film Cleaner & Applicator

Fills the gap between impractical and wasteful hand-cleaning methods and expensive automatic machines. Cleans all film as you inspect it!

- Even flow; no fluid evaporation or leakage.
- Film wiped thru compact woven flannel cloths.
- Fed to takeup reel dry.
- Produces clean polished film.
- Makes film static free, lubricated, pliable.
- Gives film longer, brighter life.

Priced ONLY $29.50

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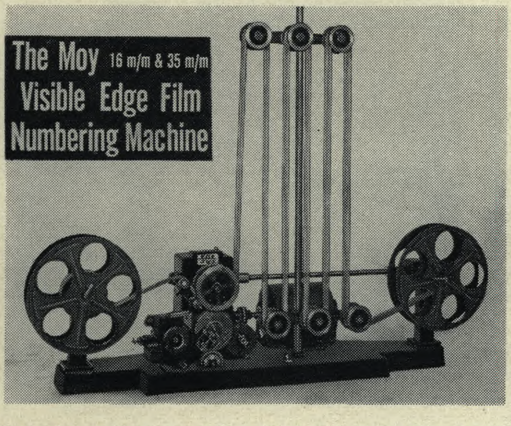
The One-Stop Source Of Supply

IDENTIFY FILMS INSTANTLY



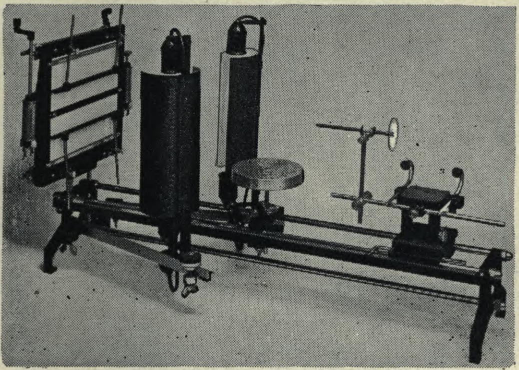
Moy edge numbers every foot of 16 and 35mm film—simplifies the task of checking titles, footage. Replaces cue marks, perforations, messy crayons, punches, embossing and other unsatisfactory methods which mutilate film. Work prints showing special effects, fades and dissolves require edge numbering to keep count of frames cut or added. Multiple magnetic tracks in CinemaScope, stereophonic recordings make edge numbering a MUST. *Write for illustrated brochure.*

With New improved Non-Clog Inking System, $2475

Present Moy owners can easily install the new and improved inking system!

AMONG RECENT PURCHASES ARE:

Reeves Soundcraft, Springdale, Conn.
Holland & Wegman, Buffalo, N.Y.
American Optical (Todd AO), Hollywood
Indonesian Supply Mission, N.Y.C.
Cinerama Productions, New York
Columbia Broadcasting System, N.Y.



S.O.S. 16mm TITLER AND SPECIAL EFFECTS KIT TG11

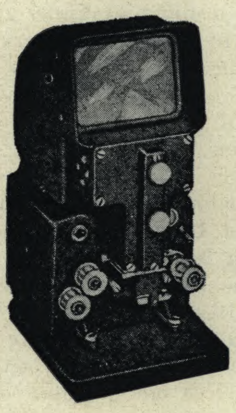
For Professional Results!

For producing the widest range of titles, trick films, cartoons, animation, etc. Takes most types of movie cameras. Horizontal and vertical operation. Table adjustable norht, east, south, west. Front and rear illumination. Title board size 5⅛" x 7⅛", overall dimensions 30" x 12" x 9"; weight 20 lbs. Complete with all accessories. *Write for illustrated brochure.*

MODEL TG II, 16mm *(illustrated)*	$159.50
MODEL TG III, 16mm	$198.50
MODEL TG IV, 16/35mm	$295.00

Here, under one roof, an entire building . . . a single source of supply for practically every conceivable need of film production equipment — including processing, recording and editing of motion picture films—an enormous stock, more varied and more complete than any in the industry.

S.O.S. 16mm ACTION VIEWER



ASSURES BIG, BRIGHT, CLEAR PICTURES

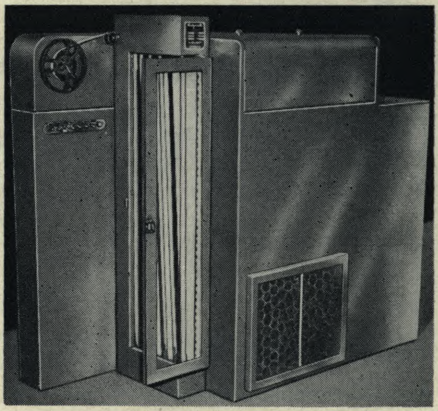
NOW you can run original as well as prints with complete confidence on the S.O.S. Action Viewer—its roller-smooth action is positive insurance against film scratching, or damage to film sprocket-holes. Designed to view films easily . . . for editors, laboratory workers, animators and TV technicians. A truly professional optical insrtument.

- **BIG, CLEAR IMAGE, 3" x 4"—no flicker.**
- **Pictures approach that of a projector.**
- **No excess heat on film when still.**
- **Coated Optical Prism Magnifying Viewing Glass. Can be viewed in lighted room; no ground glass. Comfortable viewing distance at 10" to 14".**
- **Self-lubricating bearings, no oiling.**
- **Can be synchronized with Precision Sound Readers.**
- **Simple 5-second threading.**
- **Individual Framing & Focusing Controls.**
- **Hi-Power projection lamp—easily replaced.**
- **Lamp adjustment control for maximum illumination. Film may be rewound without passing thru viewer. Operates in conventional manner—left to right.**
- **Built-in Cue Marking Device.**

BUILT OF RUGGED ALUMINUM ALLOY: 16" x 10" x 12"; WEIGHS BUT 9 LBS.

ONLY $124.95

FILM PROCESSING with BRIDGAMATIC PAYS FOR ITSELF



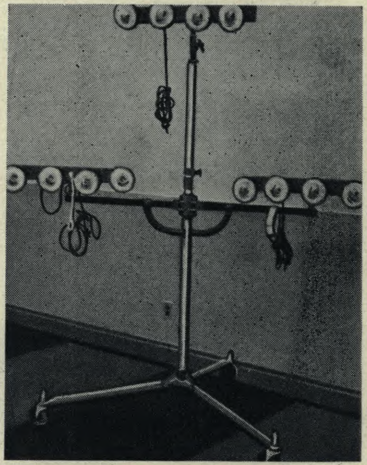
Bridgamatic RT-R, 52" high x 47" long by 30" wide—one of 12 models, including color machines.

This new ultra rapid 16mm motion picture film developer assures clear, sharp, brilliant images. Entirely automatic. Requires no special skill. Removes the guess, protects your precious originals, dry-to-dry in minutes. No darkroom necessary.

MODEL RT-R 16mm Reversal........$5995
(Output 82' per minute at 98°)

ALL NEW MODEL R JR. 16mm REVERSAL............ONLY $1750

FOR SPOT OR FLOOD



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For indoors, outdoors. **3 Striplites, each with 4 swivel sockets and switch,** holds twelve 150W R40 lamps—totaling 1800W illumination. Folds to portable size. Tripod stand has two folding 1¼" tubular steel arms 28" long with attached striplite lamp heads. Heads measure 2" long x 2¼" x 3" high. Weatherproof cable, plug. Rolling stand has three 4" rubber tired casters. **Can also be used with ColorTran converters.** Excellent condition. Original U.S. Government Cost $180 ....**NOW Only $29.50**

With One Striplite, four 150W projector lamps....$22.50
Multiple Striplite Lamp Heads Only....................$4.95
Telescopic Tripod Stand Only with 3 brackets....$19.95

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16mm or 35mm
in 10 SECONDS!

Camerette 16/35

Reflex Motion Picture Camera

The perfect camera for the motion picture film maker working in both 16mm or 35mm color or black and white.

LOOK AT THESE ADVANTAGES—

- The same lenses, same motor drives, same sound blimp and accessory equipment used for both 16mm or 35mm — to convert simply change the magazine.
- Precise rugged movement
- Reflex viewing
- 200 degree adjustable shutter
- Divergent three lens turret
- Automatic film gate 400′ magazines 16 or 35mm — the 16mm magazine will accommodate daylight spools as well as standard core load.
- Light weight — only 14 pounds with 3 lenses, 400′ magazine, and 6/8 volt motor.

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A. S. C. FETES CHARTER MEMBERS ARTHUR EDESON AND VICTOR MILNER

ARTHUR EDESON, right, receives commemorative plaque and replica of the original ASC Charter from screen director David Butler, his life-long friend.

VICTOR MILNER, left, is presented the ASC's commemorative plaque and a replica of the original ASC Charter by his son, Col. Victor Milner, Jr., USAF.

Arthur Edeson and Victor Milner, only surviving charter members of the American Society of Cinematographers still active in the organization, were honored at a testimonial dinner given in their behalf by Society members at the ASC Clubhouse the evening of April 25th.

Edeson and Milner, along with Philip Rosen, Homer Scott, Wm. C. Foster, L. D. Clawson, Eugene Gaudio, Walter Griffin, Roy Klaffki, Charles Rosher, Joe August, Fred L. Granville, J. D. Jennings, Robert Newhard and Guy Wilky, organized the Society on the eighth of January, 1919.

Both Edeson and Milner have served as presidents of the Society and both have been active on its Board of Governors for many years.

Although both men have been in semi-retirement from active direction of photography in the studios, they continue to devote their time and efforts in behalf of the welfare of brother ASC members.

Over a hundred fellow-craftsmen and guests were present at the dinner honoring the men who played a significant part in the founding of the Society.

Special guests who attended the affair include screen director David Butler, Benjamin O'Dell of the California Bank—both lifelong friends of Arthur Edeson—Col. Victor Milner, Jr., USAF, Dr. Robert Richter, and Paul Klingenstein.

Preceding the presentation of the Society's commemorative plaque and replica of the ASC Charter to Mr. Edeson, David Butler reminisced on the many turbulent days he spent on the sets at Warner Brothers with him. In a humorous vein, he traced his experiences with the director of photography who today remains his favorite cameraman.

A surprise guest was Victor Milner's son, Col. Victor Milner, Jr., of the USAF. He was prevailed upon to make the presentation to his illustrious father of the commemorative plaque and Charter replica. His unexpected extemporaneous talk was a hit of the evening.

In introducing the honored guests of the evening, ASC president Arthur Miller said: "I first met Vic Milner many years ago when he was beginning a camera assignment for Pathe News in which he was to tour with and cover the activities of the New York Giants baseball club.

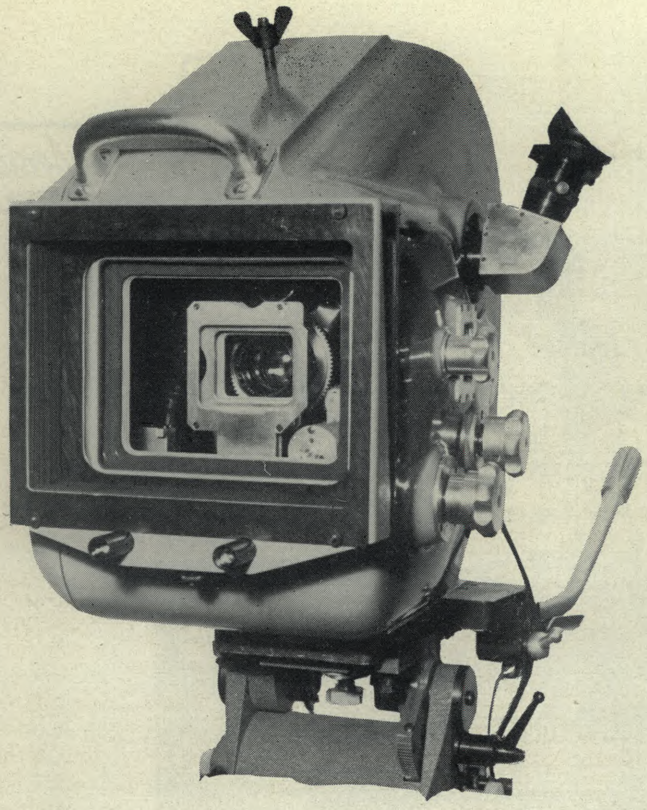
"The first man that I can remember proposing screen credit for cameramen was Vic Milner. He felt that the man who made scoops for the weekly newsreels deserved a by-line just the same as newspaper reporters.

"The first screen credit for a cameraman that I can remember happened just that way—on the Pathe News—and I have always believed that this was the forerunner of screen credits on today's feature productions."

"The next man we are honoring this evening, Miller continued, "is and for a long time has been an indefatigable worker in the interests of cameramen. Whenever any progressive movement is taking place, you always hear of Arthur Edeson. I heard of his activities long before I met him. Then we met when he was forming the Cinema Camera Club in New York in 1916. Later we met again through his activities in the Static Club. But let us hear more about him from his good friend Ben O'Dell."

Mr. O'Dell then recounted his friendly relationships with Mr. Edeson and emphasized the high esteem in which he is held by his many friends and associates.

A number of congratulatory telegrams and letters received by both men were then read by president Miller. END



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Now Available with Two Important New Features!

- ★ Adapted for CinemaScope
- ★ Sound Blimp with Reflex Viewing

Now for the first time—a lightweight camera for CinemaScope photography—the 35mm Camerette with CinemaScope aperture, with full CinemaScope field visible through the reflex viewer. Auxiliary turret and matte for regular photography.

New magnesium alloy blimp with viewing through the taking lens at all times through the Camerette's reflex finder, making a lightweight, fully blimped combination 16mm or 35mm camera. Synchronous motors—110-v single phase, 220-v three phase.

ONLY THE CAMERETTE HAS

1. Ability to use both 16mm and 35mm film in one camera.
2. Reflex viewing through the taking lens at all times for both film sizes.
3. Sound blimp with reflex viewing, making a fully blimped, instantly interchangeable 16mm or 35mm camera.

Patents Coutant-Mathot
Manufactured by Eclair, Paris

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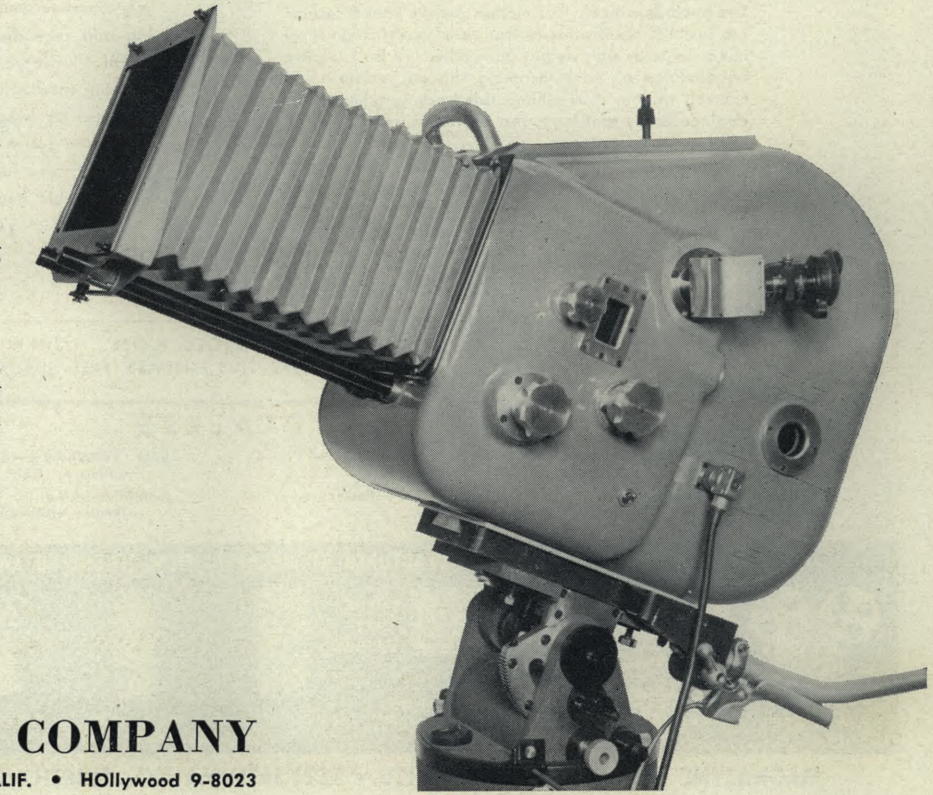

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MAGNASYNC X-400 RECORDER and G-924 MIXER

John Sutherland production "The Living Circle" produced in the jungles of Honduras. Sound was recorded with Magnasync team—X-400 recorder and G-924 mixer by Mexican technicians.

Director Larry Lansburgh, owner of the Magnasync equipment, is famous for his Academy Oscar nominee "Beauty and the Bull" and the Walt Disney production "The Littlest Outlaw."

Magnasync G924 *Multi-Channel Mircrophone* MIXER

Designed specifically for motion picture sound recording and remote broadcast transmission, this high level mixer features lightweight portability (19 lbs.), dialog equalization on each incoming channel, master gain control, built-in Microphone talk-back system, and is engineered by and for sound engineers, incorporating top quality components.

The "conventional" setup illustrated, offers a professional mixing system generally when working space is a problem. For the engineer who prefers a console mixing operation, the G-924 Mixer units can be placed side-by side providing a "miniature console."

Professional Net Price **$375.00**

Magnasync X-400 *Recorder*

Featuring extreme portability and economy, the X-400 is a complete synchronous 16 mm Magnetic film recording and reproducing channel, professional in every detail. Illustrated is the "2-in-1" unitized construction showing mechanical unit stacked on amplifier. Cases can also be separated and placed side by side for those who desire "console operation." Positive projector or camera interlock can be made with a simple flexible-cable gearbox.

Producer Net Price **$895.00**

Send for complete specifications

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DEALERS

NEW YORK—Camera Equipment Co., 1600 Broadway, New York 19. JUdson 6-1420. Cable Address CINEQUIP.

CHICAGO—Zenith Cinema Service, Inc., 3252 Foster Ave., Chicago 25, Ill. IRving 8-2104.

SAN FRANCISCO—Brooks Camera Co., 45 Kearney St., San Francisco, Calif. EXbrook 2-7348.

CANADA—Alex L. Clark, Ltd., 3745 Bloor St., Toronto 18, Ontario. BElmont 1-3303.

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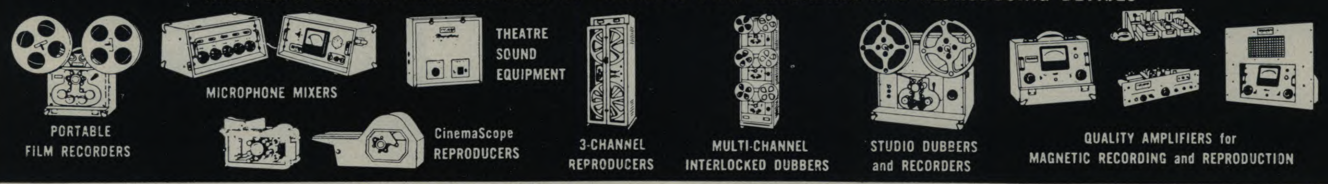

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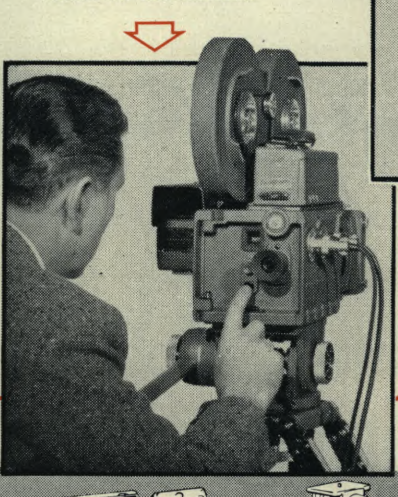
Announcing THE ALL NEW "AURICON PRO-600" for 16mm optical sound-on-film

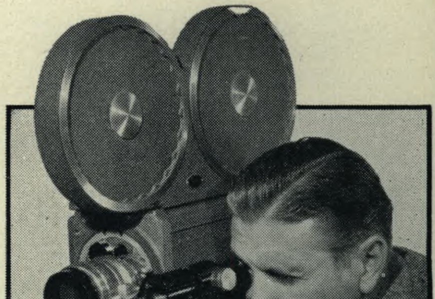
- ★ Self-blimped for completely quiet studio operation. The whisper-quiet film flow of The "Auricon Pro-600" is silent proof of precision design. Your sound-recording microphone never picks up "Pro-600" Camera noise!
- ★ 600 ft. film Magazines with Auricon-Electromatic Take-up, for 16 minutes of continuous "Talking-Picture" filming.
- ★ Synchronous Motor Drive for "Single-System" or "Double-System" Recording.
- ★ $1,165.00 list... for Auricon Pro-600 "Double-System" professional picture-camera with built-in features. Also available at added cost is "Single-System" equipment for Optical Sound-Track-On-Film, "C-mount" Lenses, View-Finders, Film Magazines, 3-Lens Turret, Critical Ground-Glass Focusing, Lens Sun-Shades, Tele-Finders, etc...
- ★ Sold with 30 day money-back guarantee, you must be satisfied!

Write for free illustrated "Auricon Pro-600" literature and price schedule.

Auricon Hollywood

"Auricon Pro-600" features Push-Button "On-Off," with safety-interlocked film-flow mechanism.





"Auricon Pro-600" Turret Model with "Zoom" type Lens and Finder in use.

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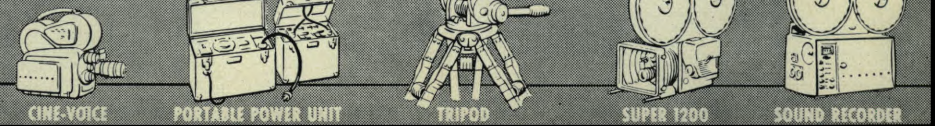

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Has uniform quality—The magnetic track is uniform and precise in thickness, placement and width—micrometer controlled!

It's different! — A non-liquid process, coated by Minnesota Mining, laminated by Capital to your film absolutely flat and smooth.

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Gives you a choice —
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30, 50, or 100 mil track width
placement on the base or **emulsion** side of the film.

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BULLETIN BOARD

(Continued from Page 256)

forthcoming production, "Lust For Life." Arnold has developed a special photographic process for recording on color film the various Van Gogh paintings which figure prominently in the story. Process is said to record paintings in CinemaScope and color with a fidelity not obtainable with conventional photographic methods.

★

Benjamin Berg, ASC, left April 24th for a month's visit to Paris where he will demonstrate for the makers of the Eclair Camerette a new electronic viewfinder, which he developed for Eclair cameras. Berg is American distributor for Eclair cameras and related equipment.

Berg will also attend the Biennale Photo - Cinema - Optique (international photographic equipment show) which opens in Paris on May 4th.

★

Russell Harlan, ASC, following his successful filming of "Blackboard Jungle," for Metro-Goldwyn-Mayer, has been signed by Metro to a three-year contract. His next assignment there will be "The Last Hunt," now in preparation.

★

Tom Tutwiler, ASC, whose magnificent aerial photography in Paramount's "Strategic Air Command" is the photographic hit of the picture, is currently on location in the Virgin Islands filming sequences in color for Universal-International's "Away All Boats."

★

Max Fabian, ASC, came out of retirement last month to return to M-G-M and shoot special photographic effects for Metro's science-fiction production, "Forbidden Planet." George Folsey, ASC, is director of photography on the production.

★

Joseph Brun, ASC, reports from Paris that he is currently shooting at Paris Studios "Nuits de Montmartre," a French feature in Eastman Color and Cinepanoramic, a new French anamorphic system having the same aspect ratio as CinemaScope.

★

Norbert Brodine, ASC, has been signed for the third successive season by Lewislor Enterprises, Inc., as director of photography for the "Loretta Young Show." The ace cameraman and "Emmy" nominee has been filming the show since its inception.

Following the re-pacting, Brodine, accompanied with his wife, departed for an 8-country tour of Europe in celebration of their 30th wedding anniversary.

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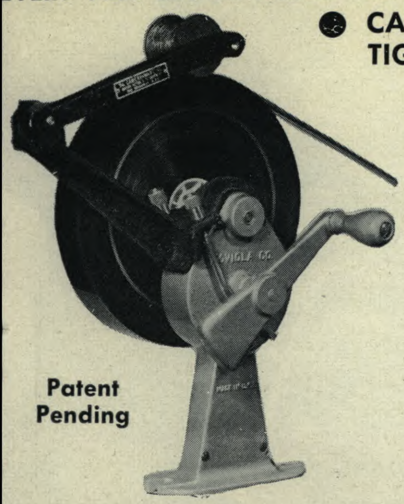

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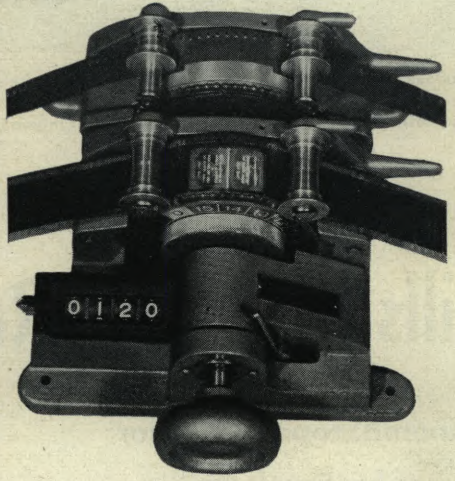

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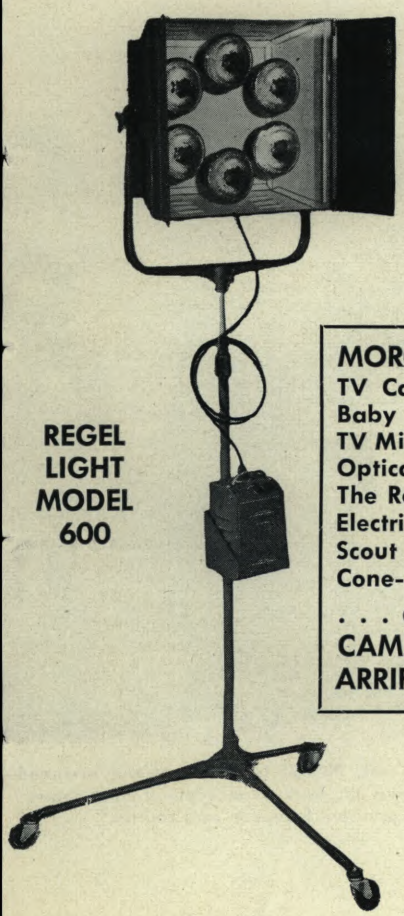

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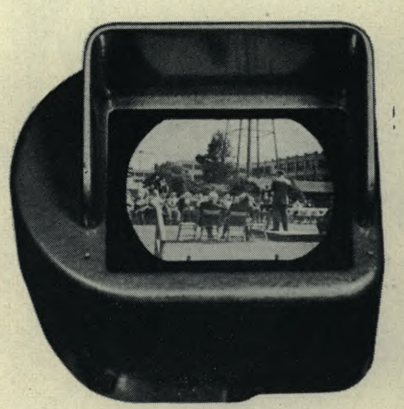

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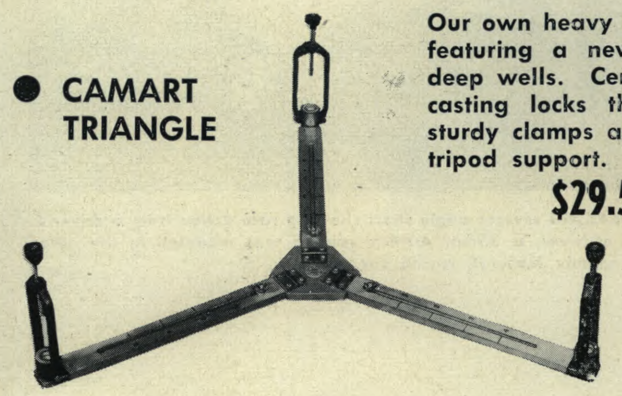

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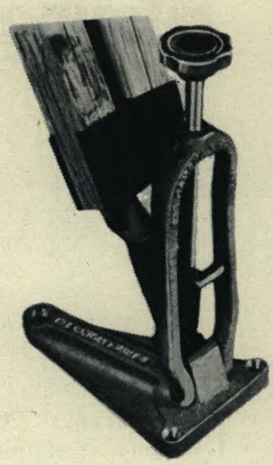

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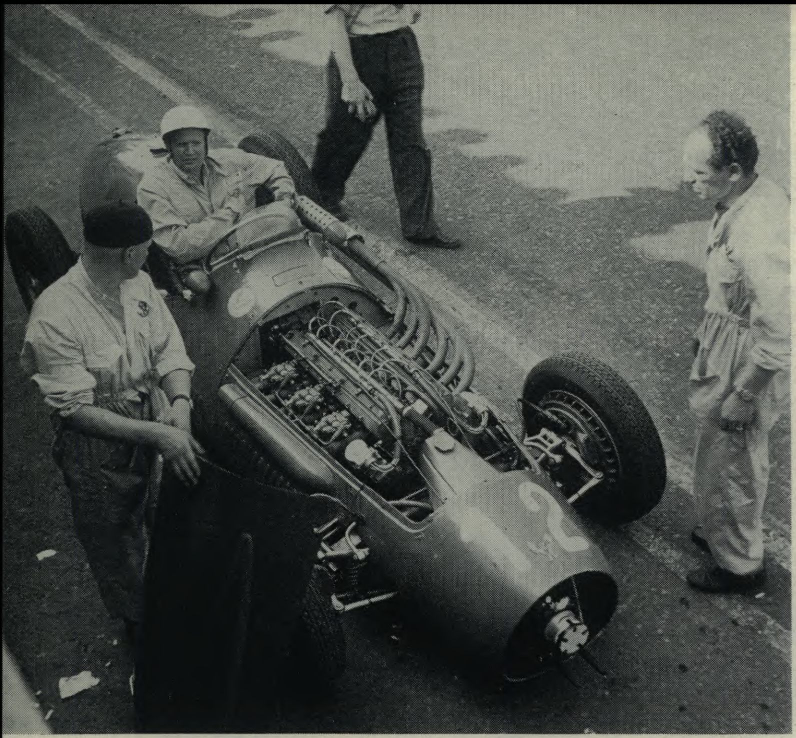
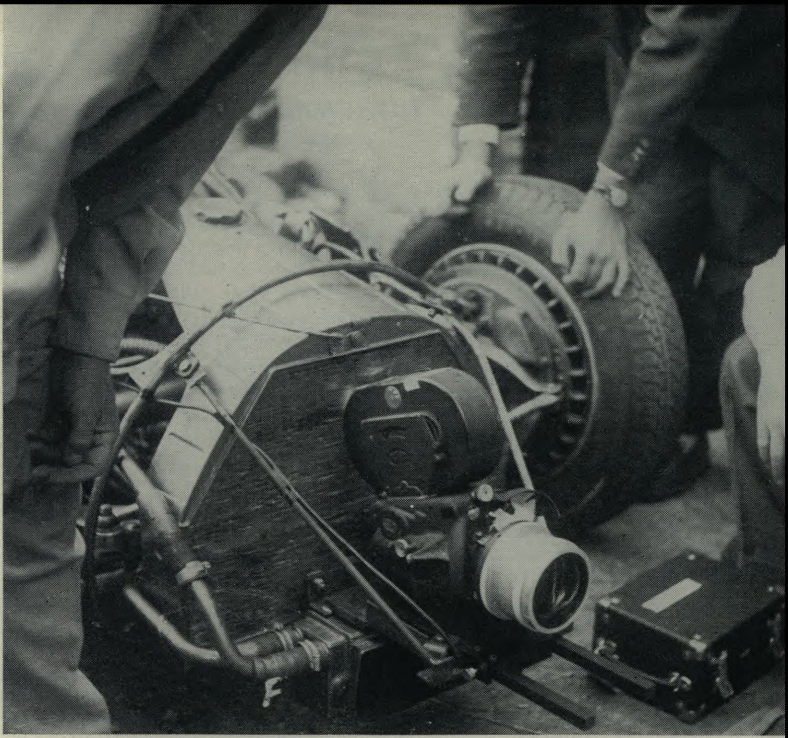


FOR MAKING reverse angle shots showing race action from a driver's point of view, a 35mm Arriflex camera was mounted in the nose of a speedy Maserati racing car.



CLOSER VIEW of the Arriflex camera, showing how it was mounted in nose of the Maserati. Note the anamorphic lens which made possible photography of racing action in CinemaScope.

Filming Auto Race Thrills For 'The Racers'

Authentic action filmed in CinemaScope and color at famed European race courses by Frank Phillips.

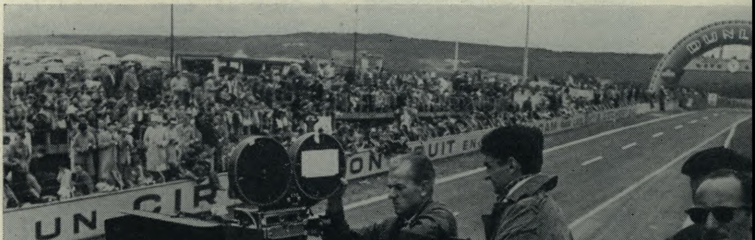
By HERB A. LIGHTMAN

"THE RACERS," 20th Century-Fox CinemaScope production, is significant for the way it creates an impact almost entirely on the basis of its location photography. Built around the careers of daredevil European road-racers, the film scores heavily as a thrill spectacle chiefly because of the breathtaking camera-work in the auto racing sequences.

Great credit is due director of photography Joe MacDonald, A.S.C., for the artful manner in which he matched studio photography with actual racing scenes filmed abroad—but the unsung hero of the film, photographically speaking, is Frank Phillips who directed the photography of the hair-raising race sequences on various European automobile race courses. Phillips filmed these difficult scenes not only with superb technical skill, but with a dramatic approach that brings audiences right into the roaring action of the picture.

This is not the first time Phillips has been called upon to capture the excitement of auto racing for motion picture productions. Several years ago he shot similar footage for a Clark Gable starrer titled "To Please a Lady," in which his camera was mounted on a specially adapted "hot-rod" speeding along at 107 miles per hour.

For "The Racers" assignment, which involved color film and CinemaScope, Phillips used a Ford station wagon which



FOR HOME STRETCH shots of the cars, Phillips (right of camera) extended the Mitchell CinemaScope camera over the track on a couple of stout boards. Action shots were made at all the principal European race courses.

had been "souped up" to do better than a hundred miles an hour on straightaways. This proved an unusually smooth riding car for the purpose, and was used in filming a major portion of the follow shots of racers.

Where shots were to be made that required traveling at higher speds, Phillips mounted the Mitchell camera in the open trunk compartment of a speedy Jaguar XK120, which also had been "souped up" for racing.

For reverse angle subjective shots, showing a race from the driver's point of view, a 35mm Arriflex camera with CinemaScope lens was mounted in the nose of a Maserati racing car, snugly under the hood with barely a quarter of an inch to spare. A cable attached to the camera starter button was run past the motor and through the cowling to a switch next to the steering wheel. The Maserati was driven at full-tilt by Baron Tulo de Graffenried, internationally-famous Swiss road-race champion, who switched the camera on and off as he sped along the course. It was necessary to stop and reload the camera every ¾ of a lap. Baron de Graffenried also doubled for Kirk Douglas and other cast principals in the long shots as did John Fitch, famous American road-racer and "test pilot" of Cunningham racing cars, who now lives in Switzerland.

For "The Racers," Phillips shot footage of most of the outstanding road races in Europe: the Italian Grand Prix at Milan, the Grand Prix of Belgium at Spa, the Grand Prix of France at Rheims, the Grand Prix of Monte Carlo, and the Grand Prix of Europe at Nurburgring (a course that is 23 kilometers of sheer mountains and hairpin curves).

Each time Phillips prepared to shoot a race scene from the camera car, he was securely tied to the car frame with ropes. His camera was invariably mounted on a free-head tripod, a facility which enabled him to "ride" with the ever-changing composition. For car speeds over 100 miles per hour he undercranked the camera at 18 frames per second. Often, however, he worked as low as 12 frames. In such cases, his biggest headache was getting the drivers to avoid sudden movements and to pass each other smoothly on the course in order to avoid a jerky picture result.

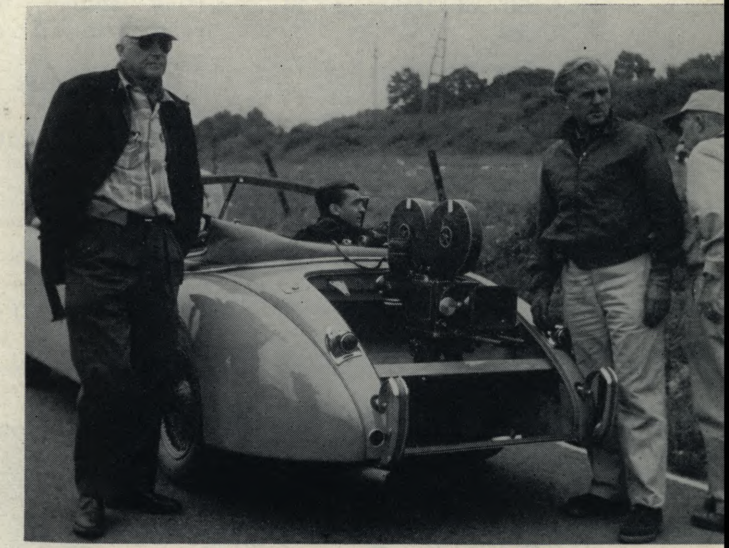
There are in the film several spectacular crises which Phillips shot, including three spins and a couple of crack-ups. In one sequence he had his camera mounted flat on a dolly with tracks laid downhill. As one car spun in front of two others, the dolly was pulled backward, so that the car seemed to spin right over his head. Undercranked at 10 frames, this scene viewed on the screen is enough to make one's hair stand on end.

Another thrilling sequence extremely well photographed is that in which Kirk Douglas swerves his racer to avoid hitting a French poodle that runs across his path. Out of control, the car climbs a parapet and smashes to bits against a building. For this scene, Phillips uses a zoom lens to narrow down on the dog as he approaches it (no small trick without a zoom finder). The speed of the camera car combined with the added speed of the zoom lens made the dog leap into prominence, creating a startling effect on the screen.

In filming one tricky sequence, Phillips almost ended up in the cameramen's Happy Hunting Ground. He was lying on the ground with his camera focused on a Ferrari racing car that was bearing down upon him, but which was supposed to swerve off as it approached. As the car hit a

(Continued on Page 299)

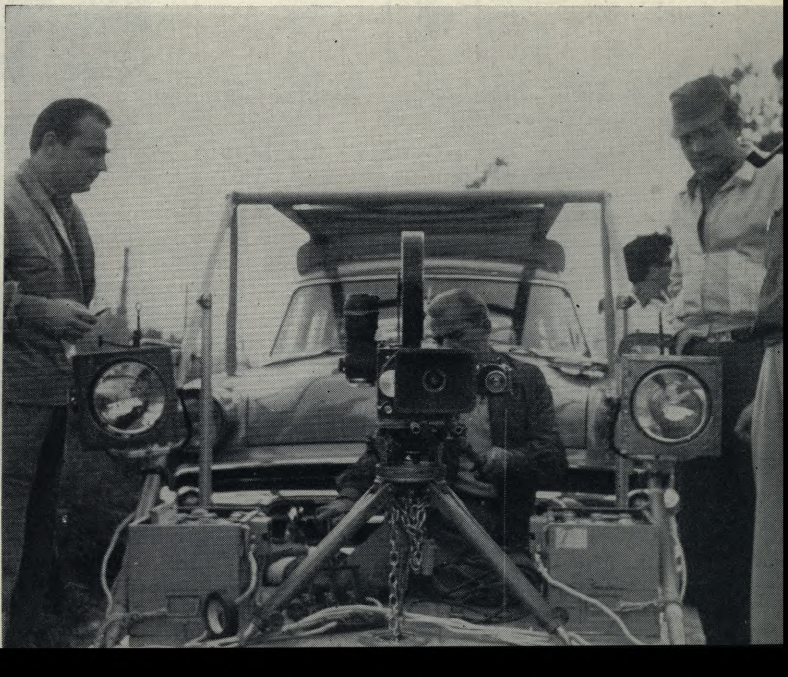
GETTING REAL CLOSE to the action is cinematographer Frank Phillips shown here behind the Mitchell camera. Note the wide CinemaScope format of the camera matte box.



FRANK PHILLIPS, 2nd from right, awaits signal to get his camera into action. Here the Mitchell is mounted in trunk compartment of a fleet Jaguar racing roadster.

►

CAMERA AND LIGHTING SETUP which Phillips used in photographing most of the action on the tracks. Mitchell camera is mounted on sturdy platform extending in front of Ford station wagon. Landing field lights at either side supplied fill light.



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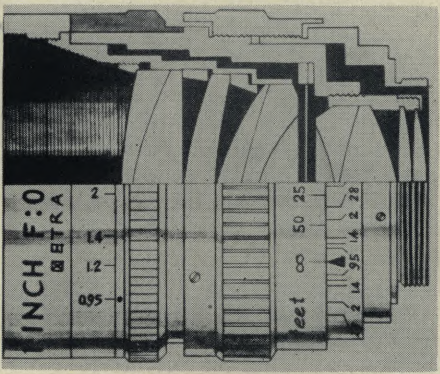

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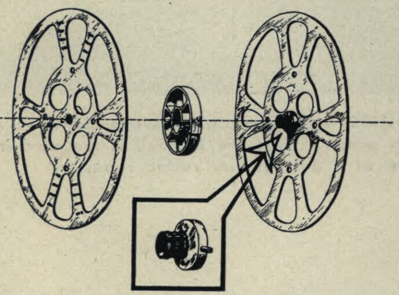

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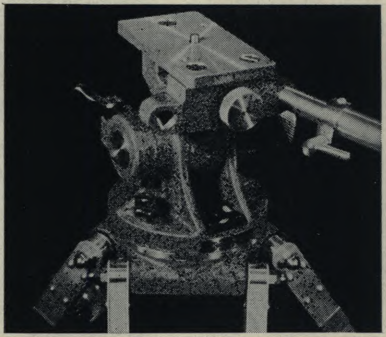

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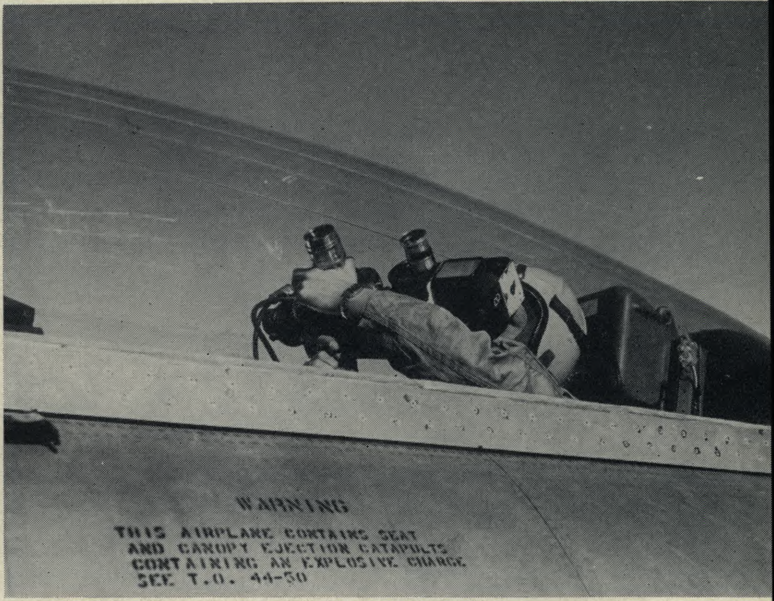
JUMPER AWAY!—Intensive detailed study of jumper and chute performances are made possible through motion pictures which are made from camera plane, wing of which is visible at lower right. (Official U. S. Navy photo.)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NAVY CINEMATOGRAPHER, using special dual camera setup, photographs each jumper in slow motion. (Official U. S. Navy photo.)

Cinematography In Parachute Research

Movies in slow motion provide engineers with visual data necessary to improving chute design and construction.

EIGHT MILES west of the Naval Auxiliary Air Station in the Imperial Valley of California, a ground control crew from the Naval Parachute Unit passes the word "Jumper Away" by radio to the plane flying overhead. This oft-repeated phrase signifies to the pilot of the plane that another parachutist has safely left the aircraft in the process of live jump testing a parachute.

At the same time this signal brings the accompanying photo plane, that has been flying "wing" on the jump plane, into action. An alert photo pilot and cinematographer working as a team are providing photo coverage of all phases of parachute behavior from the time the jumper exits from the jump plane until full inflation of the parachute canopy and the beginning of normal descent. Another camera crew on the ground records the descent and landing of the parachutist.

To the casual observer, the importance of the camera crews has been obscured by the publicity afforded the "glamour boys," the parachutists who voluntarily and unhesitatingly test newly developed parachute equipment so that pilots and aircrews of the Services may be provided with the finest of survival equipment. However, it is through the results of the daily working schedule of the photographers of the Naval Parachute Unit that the engineers and technicians obtain the required information on which to firm their designs and further their developments.

The Photographic Laboratory of the Naval Parachute Unit has the responsibility of providing photo coverage for the Joint Parachute Facility of the Department of Defense. This Facility, based at the Naval Auxiliary Air Station, El Centro, California is comprised of the 6511th Parachute Test Development Group, United States Air Force and the Naval Parachute Unit, United States Navy. The photographic department has modern and complete facilities for the production of all photographic requirements. Here, a crew of approximately thirty Navy Photographers Mates of an average age of twenty years perform the prodigious task of shooting, processing, titling, and editing approximately a mile of film daily.

The relative importance of the contribution of these young men to the overall success of parachute development is of great import. The cinematographic records of all parachute descents are the only means of studying and analyzing what has actually occurred from the time the test jumper pulls the parachute ripcord until he has landed. No visual means other than the cine camera suffices to record for future study and engineering analysis the action of the parachute system undergoing test during initial deployment, inflation and descent. Cinematography not only provides a documentary record of the test but permits careful examination of the behavior and characteristics of the test item through the medium of slow-motion technique. Further scrutiny on film assessing devices permits frame-by-frame evaluation and time study from time pips on the processed film.

While the mission and tasks of the Naval Photographic Laboratory of the Naval Parachute Unit are to provide broad photographic coverage including studio and still shots, its primary responsibility is the production and pro-

(Continued on Page 290)

SIX HUNDRED 100-ft. rolls of 16mm Commercial Kodachrome film—just part of the film supply taken aboard for photographing the sixth world cruise of the brigantine "Yankee." Author-cameraman Ray Jewell, left, is seen checking out the film supply with Comm. Irving M. Johnson, skipper of the craft.

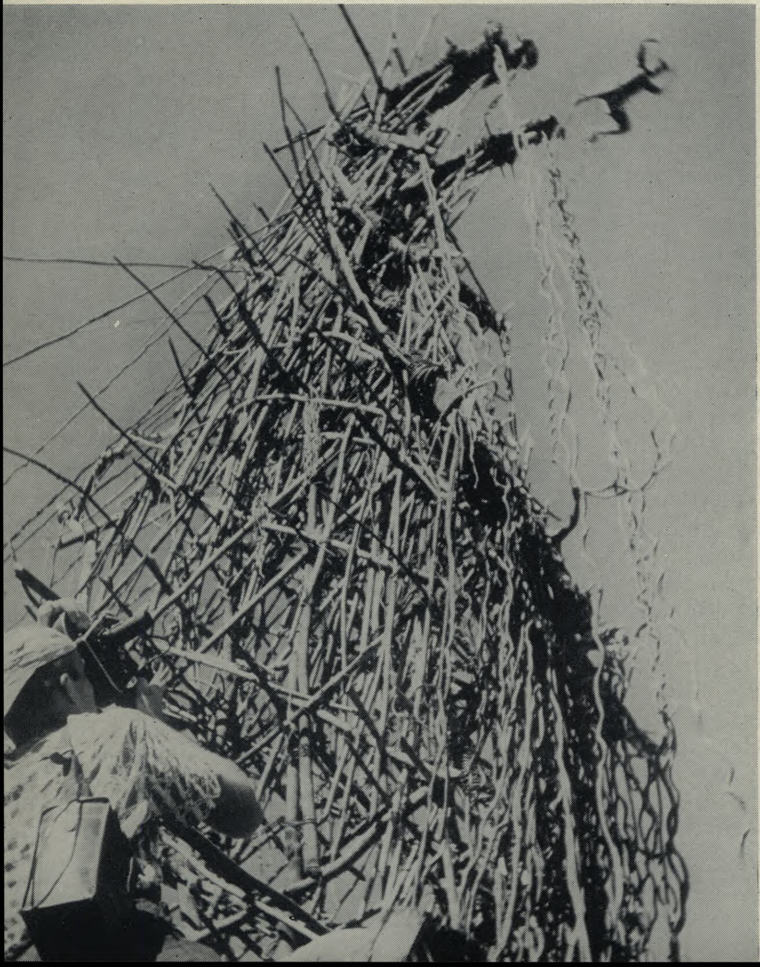
FILMING A 'ROUND-THE-WORLD CRUISE....

By RAY JEWELL

Photographs by Lydia Eads and Robert Johnson

FOUR BELLS struck in the "Yankee's" charthouse.

"Cast off bowline," shouted the Skipper, Commander Irving Johnson of Springfield, Massachusetts. "Take in your springs and let go the stern line!" The amateur crew of seventeen young men and four girls moved excitedly around the broad deck. The precise minute had come for this famous square-rigged sailing vessel to leave her home



SPECTACULAR JUMP—Ray Jewell photographs daring plunge earthward of Melanesian youth from top of 75-foot tower. Stout vines tied to youth's ankles breaks fall just inches from ground. Rite is said to prove courage and daring of native youths approaching manhood.

port of Gloucester, Massachusetts, to begin her sixth round-the-World Voyage on November 1, 1953.

After three years of preparation, which included a degree in cinematography at the University of Southern California and two months of sailing in this same ship along the New England coast, I was ready to step aboard as the Skipper's cameraman to photograph in 16mm color the adventure and thrills of eighteen months sailing to out-of-the way places of the world. The many months of academic work and practical experience, combined with busy planning for equipment and stowage needs were at an end.

As thousands of friends and relatives waved and cheered from shore, the 96-foot brigantine-rigged vessel moved slowly away from the dock, and I began my work aboard the press boat as it joined other small craft escorting the big white hull down the harbor and out to sea. The photographic record was begun as "green" hands were filmed struggling with unfamiliar lines and sails, but "Yankee" was soon dressed in most of her 7775 square feet of canvas, and we were off on our first ocean passage. I boarded the ship outside the breakwater, joining the twenty-two strangers I would live and work with during the cruise. It was difficult to realize that this small, independent rolling "world" would be my photographic studio for the next 18 months.

A challenging experience in "marlinspike photography" was underway. I soon found that I not only took pictures, but I serviced equipment subjected to the worst possible conditions, mine as well as some of the nine movie and fifty-three still cameras owned by other members of the crew; took care of stowing exposed and unexposed film for all; projected returned work prints for study and slides for occasional evening entertainment at sea; served as mailman for film going home to eager parents; and consulted with others on their photographic problems and difficulties so that we all might carry back the most complete record possible. These duties were combined with eight hours a day as a sailor—handling sail, taking an hour at the wheel, painting, chipping, renewing worn and chafed gear in all types of weather, anytime of day or night, on deck or seventy-five feet aloft in "Yankee's" tall rigging. The Skipper had decreed "anything for pictures," so that, of course, was my first duty.

The weeks preceding our departure had been crammed with all sorts of preparations, budgeting, and consultation with the skipper, and we found probable solutions to many problems. I became more familiar with the ways of a sailing ship, tried out new equipment on board and faced the biggest headache of all—that of stowage. Stowage of the meticulously selected equipment had to be kept in mind before purchase, for the "Yankee" is not an ocean liner. Everything had its place and must, of necessity, be kept there. I was afforded an unlimited amount of film and freedom to use it in the manner I felt suitable. Choices were made, and I settled on four alligator clamps, twelve RFL-2 and six photoflood B-2 bulbs, along with a Quickset elevator tripod for interiors, and a Pro. Jr. tripod for use with the Pan Cinor Zoomar lens.

Twenty-three of us would be living and working in a 96′ x 21′ x 11′ steel hull, and the prolonged tropical heat and humidity would not make it seem any larger. The forepeak where film and items too big for my bunk were stowed, goes up and down in rough seas like an express elevator, but it is here that the successful battle against mildew and spoilage was successfully waged. I kept the exposed film, both movie and 35mm cartridges, in airtight cans with silica gel, thus keeping the relative humidity around 50%.

At the time of writing this we are at sea between Zanzibar and Port Elizabeth. The total of commercial Kodachrome used thus far is 93,000 feet; in addition, some 750 rolls of 35mm film have been exposed; and thus far there have been no indications of instability or fungus which often occur in the tropics. This is also true of camera lenses, although the binoculars in the charthouse bear two of the biggest "stars" the skipper has ever seen. Brand new cameras on the shelves in Singapore pick them up, and I talked with several camera owners in New Guinea who had considerable trouble with fungus both on lens and film. We take no obvious precautions with cameras, except to carry spare lenses, for all cameras are used much too frequently to warrant bothering with airtight carrying containers.

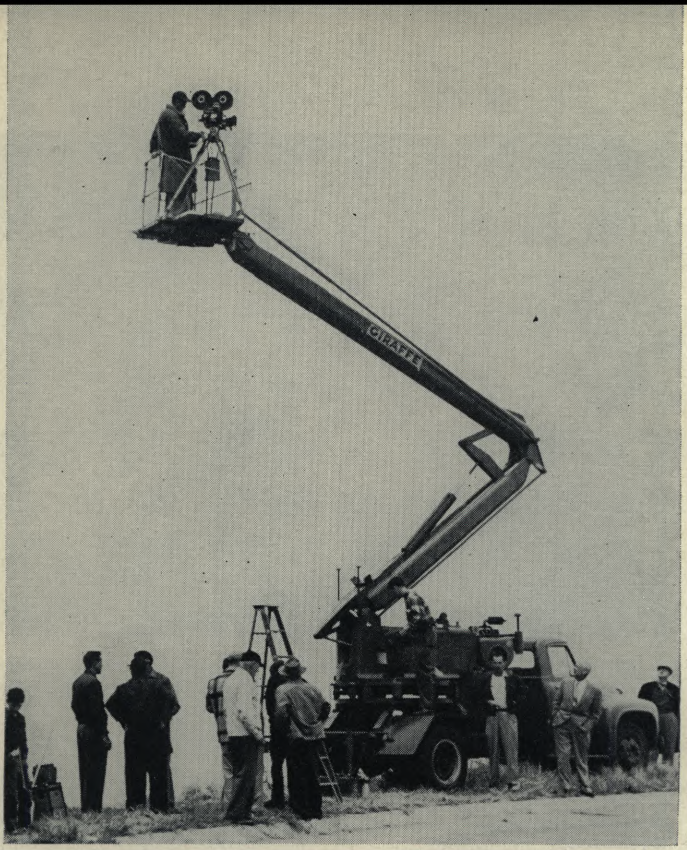
My cameras have been given the most grueling test possible with wonderful results. For general use, I find two 16mm Paillard Bolexes equipped with 2″, and 3″, wide angle, and 1″ lenses practical for nearly all of my surface shots, using the wide angle for establishing the scene and the 1″ for medium and closeup shots.

Two 16mm Bell & Howells have proved ideal for shooting underwater activities. The Bolexes have been drenched

(Continued on Page 296)

BRIGANTINE "Yankee," homeward bound on her sixth voyage around the world, passes before Table Mountain as her crew takes her out of Cape Town, South Africa.

MANY STRANGE people and places were visited by crew of the "Yankee." Here a pipe of odd design is presented author Ray Jewell by a native maiden of New Guinea surrounded by warriors in grotesque dress—interesting subject material for Jewell's camera.

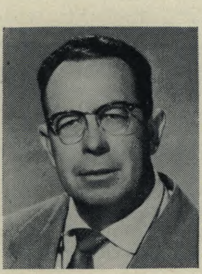


DIRECTOR of photography Guy Roe, ASC, shooting Buick TV commercials from platform of the "Giraffe." Unique hydraulic crane provides full range of control from platform; will support loads up to 450 pounds, any position.

Something New In Camera Cranes

How the new "Giraffe" enhanced the filming of Buick TV commercials.

When the Pittman Manufacturing Company, Kansas City, Mo., developed a new, low-cost hydraulic aerial platform for industrial uses, they had no idea that Hollywood would quickly adopt it as a means of mounting motion picture cameras for making shots from high angles. But studio engineers, ever alert for new and improved mobile carriers for cameras, have found the "Giraffe" ideally suited for high-angle photography, especially in remote locations.



Guy Roe, ASC

"Giraffe" is the tradename given by the Pittman company to its new hydraulic crane and platform because it resembles in action the long flexible neck of the giraffe. One example of the most recent application of the Giraffe to film production is shown in the photos on this page, which picture the equipment being used by director of photography Guy Roe, A.S.C., in shooting TV commercials for Buick automobiles.

When contract for production of the series of commercials was given Hal Roach, Jr., one of the objectives developed in planning the photography was to give the commercials all the production value and impact possible in the brief time alloted the product announcements.

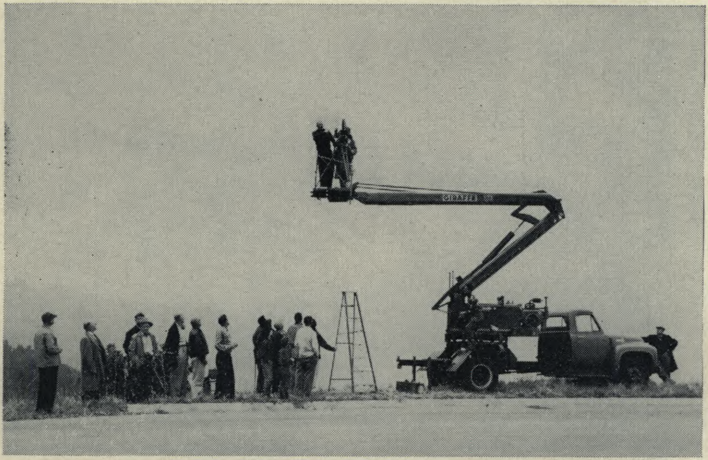
Inasmuch as the commercials were to feature Buick cars in action on the road, cinematographer Roe felt that by giving the camera comparable movement with the cars it would greatly enhance the flow and pace of action of the cars, especially in hill climbing scenes.

So it was that the Giraffe was chosen as the mobile camera mount for these shots. The Giraffe unit is self-contained and operates independently of the truck or chassis on which it is mounted. (It can also be mounted on a barge, dock, trailer, rail car, etc.) The crane and platform may be raised to heights up to forty feet, and may be rotated continuously or intermittently a full 360 degrees in either direction. Thus there is no time wasted reversing direction and making almost a complete revolution just to reach a spot only a few feet away. Rotation is accomplished by hydraulic motor which gives instant, positive and controlled swing simply by movement of control lever. A simple, fool-proof system, based on the parallelogram principle, keeps platform level at all times.

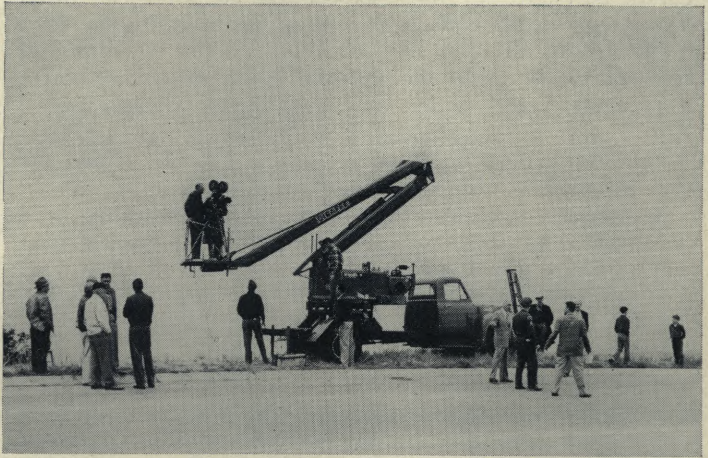
Foot controls on platform of the Giraffe leave the cameraman's hands free at all times. Four foot pedals and a knee-operated lever control all boom movements. The cameraman can swing boom and move either or both boom sections up down, backward or forward, all at the same time. A set of dual controls are located on the Giraffe's turntable, affording some versatility of operation from the ground.

"I particularly liked having the controls right at hand," says Guy Roe. "I thus did not have to depend on another

(Continued on Page 292)



THE "GIRAFFE" is shown here with platform at two different heights, as it was used on location in the filming of Buick TV commercials. It was particularly adaptable in photographing the cars coming up hills toward the camera, said Guy Roe.



"In these shots, we started shooting with the camera elevated at maximum height, then dropped down as cars approached and rotated camera platform to end shot on a tight, full-frame closeup of the moving car.

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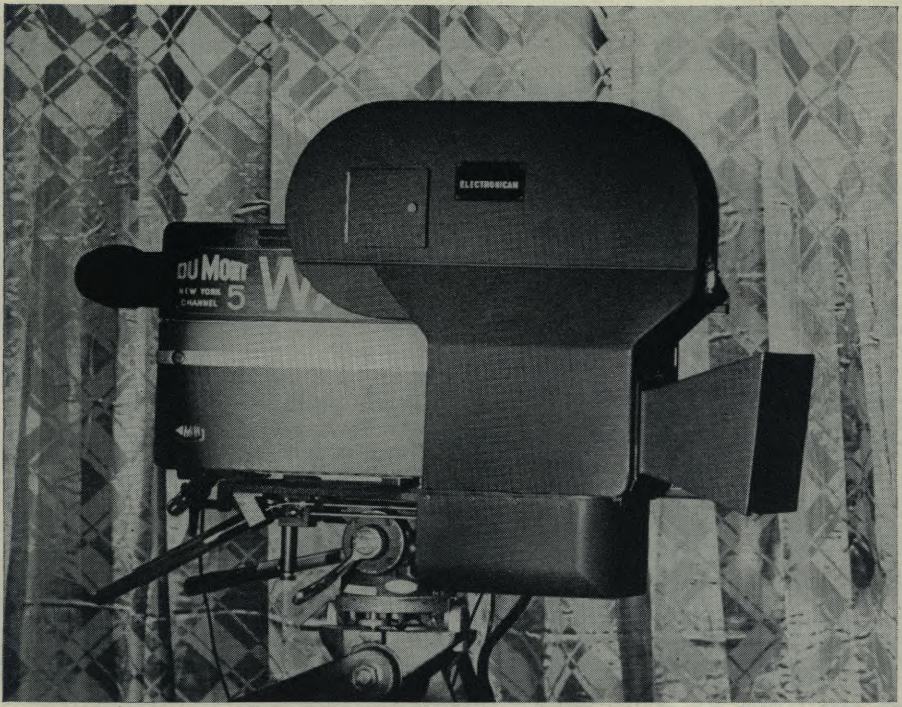

"ELECTRONICAM"—DuMont's combination TV-Film camera, records for transmission a standard B&W television program and at same time photographs a motion picture record of the same event. Camera employs a common lens system which feeds the image via divided paths to both the film and TV recording units.

MAXIMUM mobility is salient feature claimed for "Electronicam," said to greatly expedite production of motion pictures for all purposes. In top photo camera dollies in on a scene which is also being picked up by two other "Electronicams," not shown. Video image from each camera is fed to mixing panel (lower photo) and "edited" as shooting progresses.

'Electronicam'—Du Mont's New Dual-recording TV-Film Camera

"ELECTRONICAM" is the tradename of the newest dual-purpose video-film camera unit for the simultaneous motion picture and electronic recording of a scene or image. Developed by Allen B. Du Mont Laboratories, Inc., "Electronicam" was given initial public demonstration April 14th in New York.*

The "Electronicam" system operates in the following manner: An image-orthican television camera head and a film camera are mounted side-by-side on the same base and operate with a common lens system. The base is mounted conventionally on a tripod or dolly. Except for the common optical system, both units are independent and have their individual power supplies which function simultaneously.

The optics of the "Electronican" system are designed so that a portion of the light passing through the common lens is split up into two parts—one going to the film and one to the image-orthicon pickup tube of the television camera.

The system operates with either of two basic pickup units. One of these is designed primarily for the making of motion picture films, utilizing the television system as the control and editing means. This unit operates on the principle of a time-shared light path. While the film pull-down is moving a new frame of film into position in the film camera, a shutter interrupts the light path. During this interruption, the image is reflected from the front surface of the shutter into the optical path of the image-orthicon tube in the television camera.

If the studio lighting and film sensitivity requirements are satisfied, the 50% light duty cycle to the television camera provides automatically an ade-

(Continued on Page 290)

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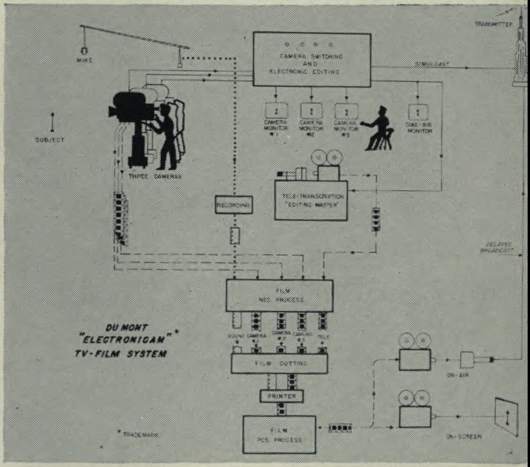
*A camera of similar purpose developed by Al Simon, Hollywood TV film producer, was previewed on the West Coast last February, and was subsequently described in the March, 1955, issue of American Cinematographer.—Editor.

BLOCK diagram below outlines operation of the complete "Electronicam" system from camera pickup to transmission of video signal on the air and production of fully edited film. Lower photo shows switching unit through which "Electronicams" may be controlled singly or in gangs.



Photographing The 1955 Mobilgas Economy Run

As filming assignments go, there is always something new under the sun for Hollywood's directors of photography. Not all the unique assignments originate in the major studios. Take the recent Mobilgas Economy Run. Fourteen motion picture cameramen covered this event for as many sponsors. Of these, perhaps the most illustrious is Elmer Dyer, A.S.C., who was assigned the task of photographing the event in both color and black-and-white for the sponsors of the event, General Petroleum Corporation.

The 1955 "run" was from Los Angeles to Colorado Springs, Colorado—a total distance of 1,323 miles over desert and mountainous terrain and in all sorts of weather. Participating were 24 contesting cars plus some 18 or 20 cars carrying AAA officials, sponsor representatives, photographers, referees, service crews, etc.

Cameraman Dyer's equipment for this assignment consisted of two station wagons with camera platforms on top; two Eyemo 35mm cameras; a standard Bell & Howell 35mm camera; and a Bell & Howell 70-DA which was used for covering the event in 16mm color. Black-and-white film was used in all 35mm cameras.

"I thought it would be a simple assignment," said Dyer, "but it started out like the proverbial 'rat race'. I had to get complete coverage of the start of the event, then pack up my equipment and speed ahead of the cars in order to catch them arriving at the first control station, which was at Yuma, Arizona.

"The cars traveled an average of 40 to 43 miles per hour. There were four persons in each entry-car—the driver and three observers or AAA officials. The latter's function was to see that the driver followed all rules and regulations. In order to keep ahead of the cars, I had to drive an average of 80 or 90 miles per hour.

"While the drivers of the competing cars got eight hours sleep at each control station," Dyer continued, "my operator Roland Price and I went the first twenty hours without any sleep whatever."

For shots of the start of the race, which began at approximately midnight March 14th, Roland Reed Productions had provided a mobile power generator and a battery of studio arc lamps to light the area in front of the General Petroleum Garage in downtown Los Angeles, the starting point of the "run." For this coverage, Dyer employed Tri-X film—the only time it was used on the assignment. "All the rest of the time we used Plus-X," said Dyer. "The coverage in 16mm color was a sort of extra-curricular job. In all we

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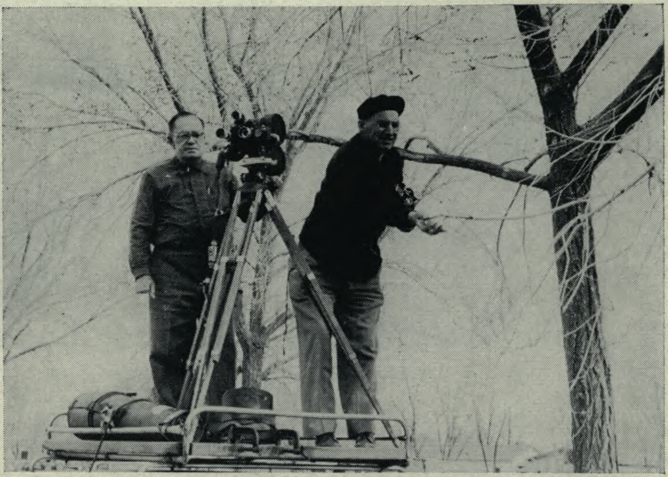

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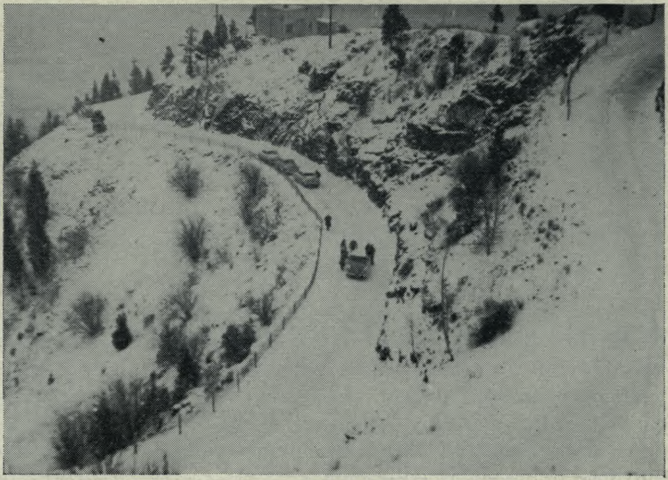

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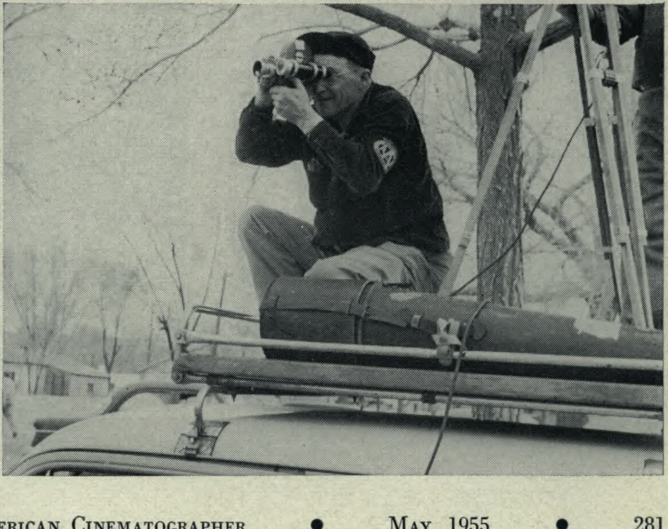

TOP PHOTO (1)—Cameraman Elmer Dyer, A.S.C., moves a tree branch to obtain unhampered view of the oncoming cars. Camera operator Roland Price stands ready behind the tri-lensed Eyemo camera. 2—Typical shot of Economy Run cars on steep, snow-covered grade near Colorado Springs. 3—Flagging down the winners at the finish. Shot made from top of Dyer's camera car. 4—Dyer, using the 70-DA, covers the action in 16mm color while operator Price handles the Eyemo on the tripod for 35mm black-and-white coverage.

CLOSEUP from a film on lettering.

With a minimum of equipment but a wealth of enthusiasm, Indiana U's film unit produces educational films that ease the teaching task for teachers.

This College Campus Film Crew Makes Training Films

By DENNIS W. PETT

Motion Picture Department, Indiana University

IN RECENT years educational film production has grown to an extent unthought of a decade ago. On many college campuses today crews are involved in the planning, scripting, shooting, and editing of films, the primary purpose of which is education.

Let's take a look at one of these films made by Indiana University's film unit, a department of the Audio-Visual Center. In the past few years this group has produced films on such subjects as ceramics, Japanese art, marching bands and safety. The films have ranged from seven-minute television shorts to a 30-minute color presentation of the State Legislature in action. Current production centers around six films on square dancing, a science series on reproduction of plants and animals, and a teaching materials series designed to help teachers make more effective teaching aids.

What goes into making one of these educational film productions? What steps are followed from the selection of a topic to the release of a finished film? The latest film on our production schedule is part of the teaching materials series, E. P. 73, entitled "Lettering Instructional Materials."

Although E. P. 73 became an entity well over a year ago, concentrated effort toward production was not begun until spring of last year. Early planning conferences determined physical specifications, intended audiences, and purposes for the film. It was to be a 20-minute sound-and-color film directed toward teachers and others interested in the preparation of teaching materials. Its purpose was to stimulate interest in making better visual aids by using improved lettering. Experts on the use of lettering were assigned as educational authors. The writer-director in cooperation with these experts determined the content that would best achieve the purposes of the film. A content outline was prepared listing in detail the facts that were to be covered. This outline was carefully checked with potential users and curriculum experts from the university faculty. This was only the first of many meetings that would be held to insure optimum educational value. The content outline served as a guide for writing a narrative treatment, which provides a framework within which the content can be developed into a motion picture script.

The first step in scripting E. P. 73 was the preparation of a story board, a series of still pictures representing each scene of the film. The story board illustrations for "Lettering" were made with a Polaroid-Land camera. Each sequence described in the narrative treatment was set up in the studio and a series of pictures taken from the viewpoints that best told the intended story. The Polaroid

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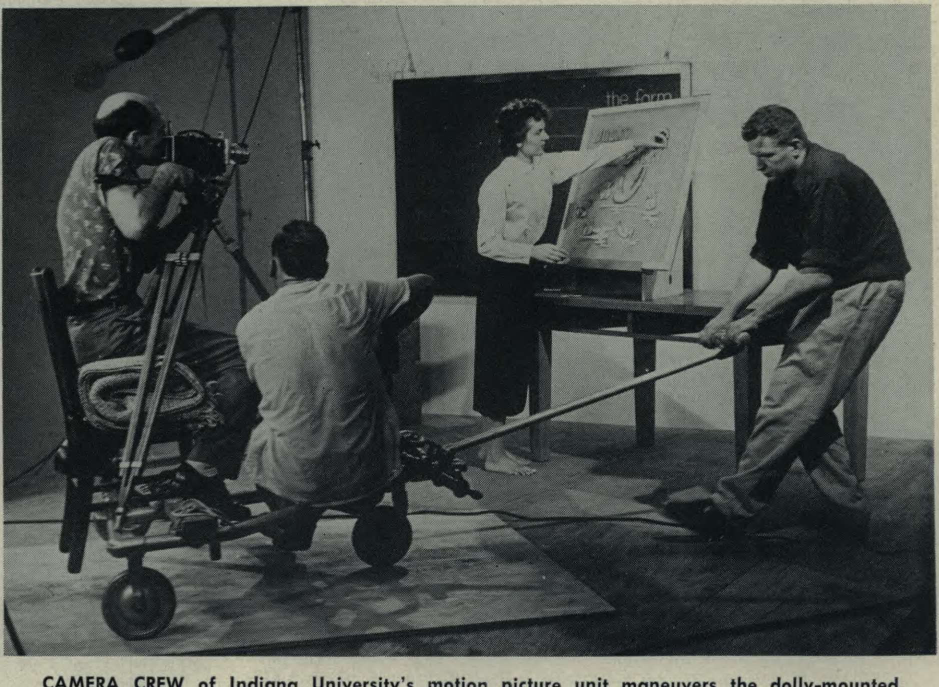
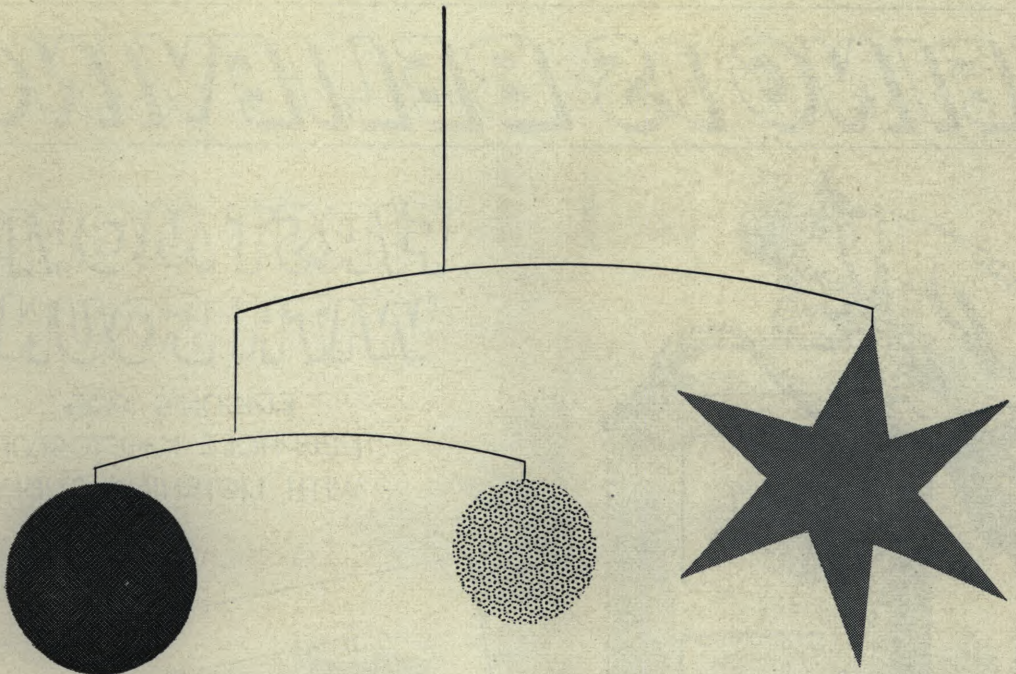


CAMERA CREW of Indiana University's motion picture unit maneuvers the dolly-mounted Cine-Special camera for a zoom shot of a demonstration in lettering technique; shot ends in a closeup of the demonstrated art work.



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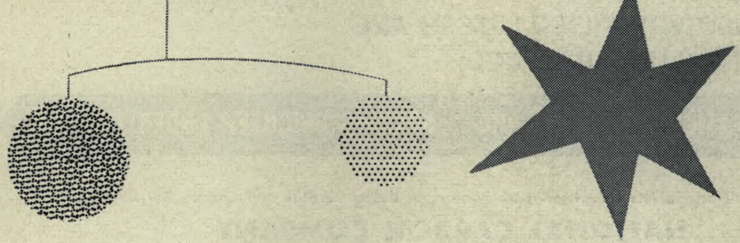

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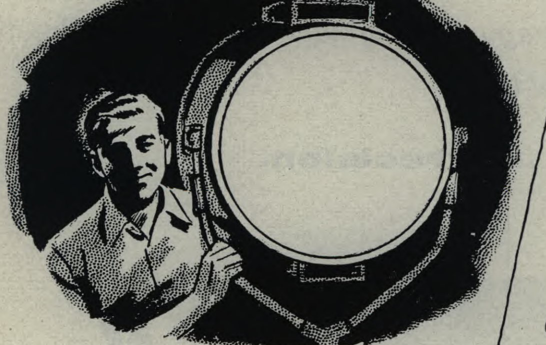

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Defining Optical Definitions

Some terms in optics explained tersely for the non-technical photographer.

By JOHN ARNOLD, A.S.C.

Head of the Camera Dept., M-G-M Studio

THE ADVENT of the various wide-screen processes with their attendant changes in camera optics have reintroduced in many cases problems of resolution, depth of field, etc. While these are still puzzling terms to the average layman, they often are not fully understood even by some experienced cameramen.

The definitions and descriptions of such terms as "resolution" and "circle of confusion" are to be found in most technical volumes dealing with photography. Very often these books are not immediately available for reference when the need occurs. This suggests that condensed definitions of these important terms, memorized for ready reference, can prove beneficial to any technician dealing with cinematgoraphy.

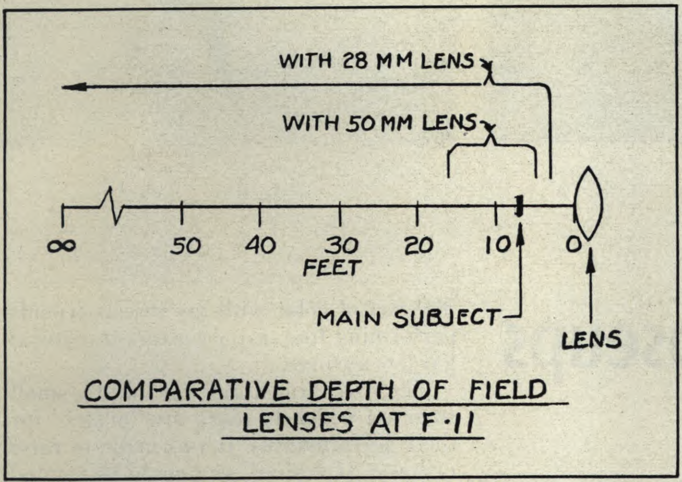


FIG. 1—Comparative depth of field of a 28mm and a 50mm lens operating at an aperture of f/11.

It is with this thought in mind that the following terse, semi-technical descriptions are presented here:

Depth of Field—The distance between the closest and the farthest points in a scene being photographed, which are considered sharp or in focus, is known as the depth of field—a term, incidentally often confused with "depth of focus." Obviously, only one plane—that on which we actually focus—can be considered as in true focus, but we must also establish a certain standard by which it is considered how far "off" this sharpest image can be and still be called "sharp."

Here it must be borne in mind that the depth of field increases as 1) the subject distance increases, 2) the aperture of the lens decreases, or 3) the focal length of the lens decreases.

To illustrate, the compartive depth of field of a 28 mm and a 50 mm lens operating at f/11 is shown in Fig. 1.

Circles of Confusion—This is perhaps one of the most difficult terms in optics to explain in simple language. When a lens is focused on a single pinpoint, that point registers as a sharp point. In actual practice, however, it is a small, sharply defined disc.

In front and in back of this point there appears, rather hazy, larger discs of light which makes the "point" somewhat fuzzy in appearance. (See Fig. 2). This degree of fuzziness is known as "Circles of Confusion." The smaller the discs appear (the closer to an actual pinpoint), the smaller the circles of confusion.

There exists no exact measure as to what degree is acceptable, but this is a relative term used to compare optical correction and to measure depth of field. It goes hand-in-hand with resolving power in this respect.

Resolution—The term "resolution," more correctly termed "resolving power," means the ability of a lens to define images close to each other—sharply and distinct. This means that a lens with a resolving power of 500 lines per inch will be able to reproduce sharply a drawing of 500 parallel lines, each spaced an inch apart.

Getting back, for a moment, to depth of field, we know that the human eye cannot separate details which are in print closer than 1/100th of an inch apart (in a normal viewing distance of ten inches). Therefore, we consider the "acceptable sharpness" in our field every line (of the aforementioned 500) which is perceptibly sharp and distinct from another line 1/100th of an inch or more distant.

Of course, to achieve this degree of sharpness in a print that is enlarged, let us say, seven diameters (or seven times) we must have a lens which has a resolution of at least 700 lines to the inch. Obviously, therefore, we must think in terms of the normal amount of enlargement the lens image on the negative will undergo in order to determine an acceptable resolving power. **END.**

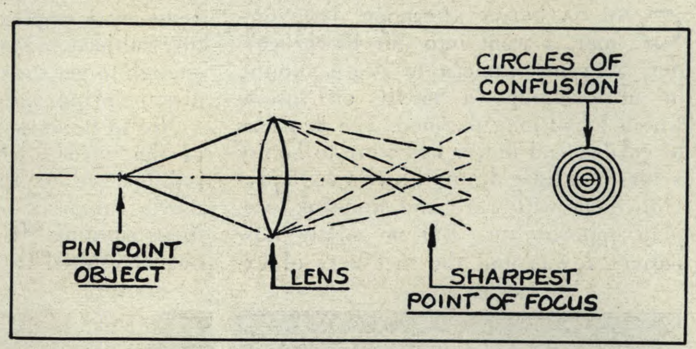
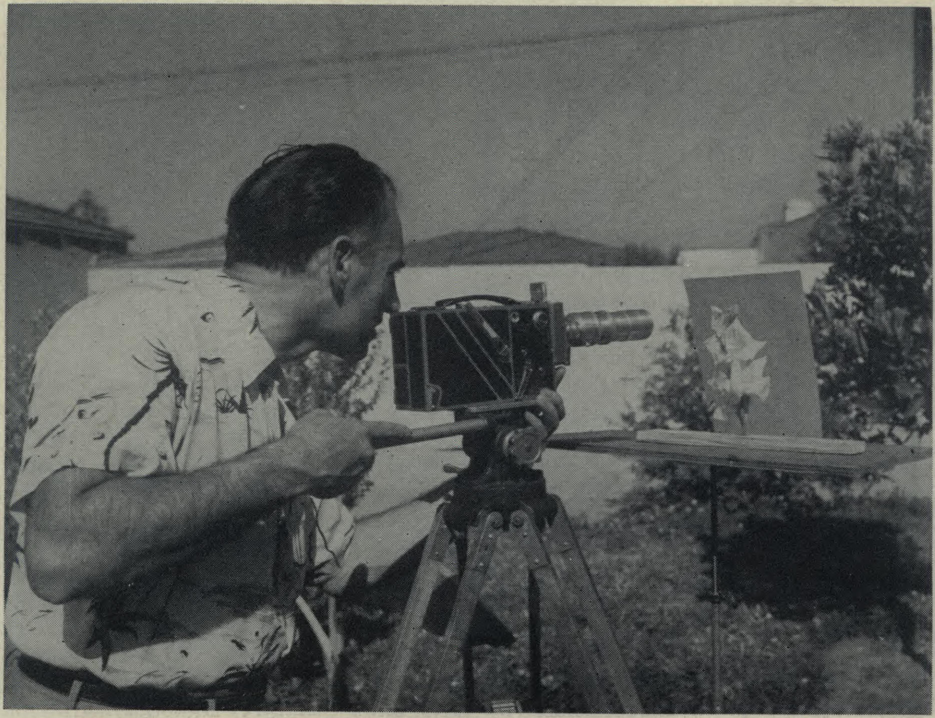


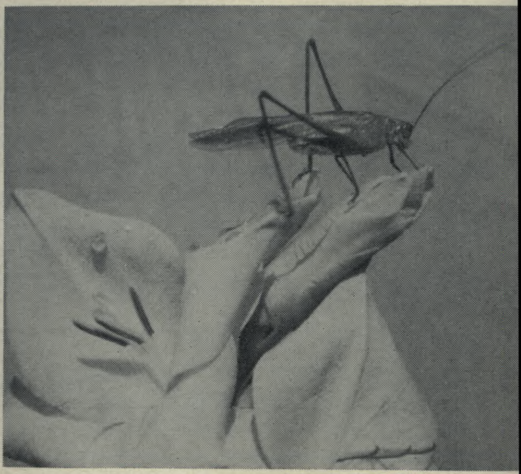
FIG. 2—The term "circles of confusion" is less confusing when illustrated in the manner above. Rays of light projecting from point sources either nearer to or farther from the lens than the point focused upon cannot render a point image, but instead result in a circular image made by a cross-section of the cone of light rays, as shown above.

Amateur
CINEMATOGRAPHY



◄
THE AUTHOR, shooting an ultra-closeup of a katydid perched on a flower fixed on the special rotatable stage. In back of flower is backdrop of cardboard painted blue.

▼ **THE CLOSEUP** obtained by author using the setup described above for his 16mm color film, "The World Around Us."



Small Subjects, Big Closeups

By LEO CALOIA

One Saturday afternoon, last summer, I went into our flower garden with my camera to begin filming in ultra-closeups a movie on insects which I had long planned. The denizens of garden and flower bed were to be my actors in a little drama which was to provide them with rare and unusual thespian opportunities. But no matter how patient I was and the measures of expediency I employed, I couldn't get my tiny subjects to stay in one position long enough to get them in focus! It was very disappointing, indeed.

Not to be outwitted by these varmints of the garden who so readily showed indifference to this big chance for a movie career, I set about to cope with their cunning. It took me all summer, but it resulted in a film presentation in 500 feet of color with my insects friends performing like trained actors in natural garden settings.

The first thing I did was build a small stage on which to place my "actors" for their performances. It was made to raise or lower as desired, and could be rotated a full 360 degrees. Holes drilled in the stage base provided for holding a flower pot or stems of plants and flowers. At the back a cardboard panel, painted blue to resemble the sky, was mounted. This provided the necessary backdrop for ultra-closeup shots.

After several experiments, I found that sunlight was the best light for

(Continued on Page 301)

CLOSEUPS of three denizens of the garden which required special treatment to keep them centered before the camera lens: elevating the stage to great height for the lizard; honey applied to feet of the bee; and securing legs of grasshopper with scotch tape.

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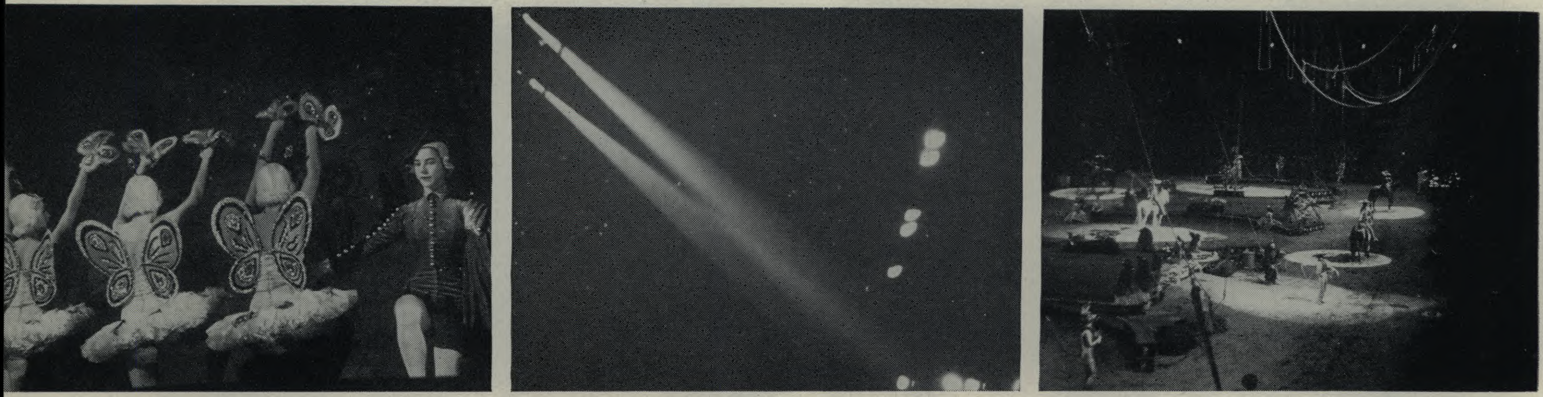

TECHNIQUE described by author is illustrated above. First scene of a ballet dance filmed in black-and-white is joined with color shots of circus acts (right) by use of tinted black-and-white transition shot of spotlights (center). Last half of latter was gradually tinted with red dye to harmonize with first scene in color sequence. Low key scenes and titles make best transition shots.

Combining Black-and-white With Color

If you use fast black-and-white film for interiors you can intercut it with exterior shots made in color, following this simple method which assures smooth transitions between the two.

By ERNST WILDI

YOU'VE BEEN ASKED to film the wedding day of a friend or relative. It's a beautiful day—you load the camera with color film—shoot scenes of the hustle and bustle of preparation at the bride's home, the colorfully dressed bridesmaids, flowers, etc., and then move on to the church in time to catch the radiant bride and her party about to enter the church. With the highlight of the day about to begin, you realize the light inside the church is far too weak for properly exposed color scenes. What to do? Should you completely omit scenes of the ceremony or shoot in black-and-white? Should you edit the footage into separate reels, one of color and the other of black-and-white, or should you combine the two?

You may be faced with the same decision when editing material obtained over a period of years pertaining to the growth of your children. Some footage may have been taken years before color film became popular. Should this be combined with the more recent color footage or left on a separate reel? While on vacation, you may have obtained interesting black-and-white shots in museums, aquariums, historic buildings or nightclubs . . . scenes which could not have been taken with the slower color film.

The cine filmer is invariably advised never to combine black-and-white film with color because the sudden switch on the screen from one to the other is somewhat disturbing. While this article is not meant to encourage this practice, on occasion when one is faced with either shooting in black-and-white or passing up valuable material, integrating the two types of film can be done very effectively and it will provide a refreshing change for 8mm and 16mm movies.

If it makes no difference from the standpoint of continuity, it is better to have the black-and-white shots on the first part of the reel. However, if continuity is adversely affected by this, the black-and-white sequences may be inserted in the middle or at the end of the color footage. Here, two methods of in-

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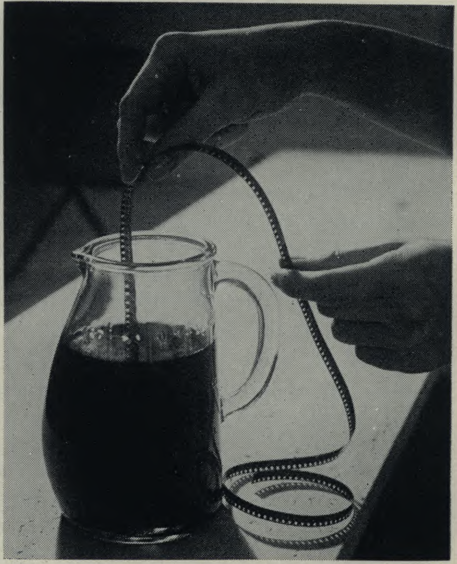

FILM is readily tinted by dipping it gradually into easily prepared dye which colors the film base only.

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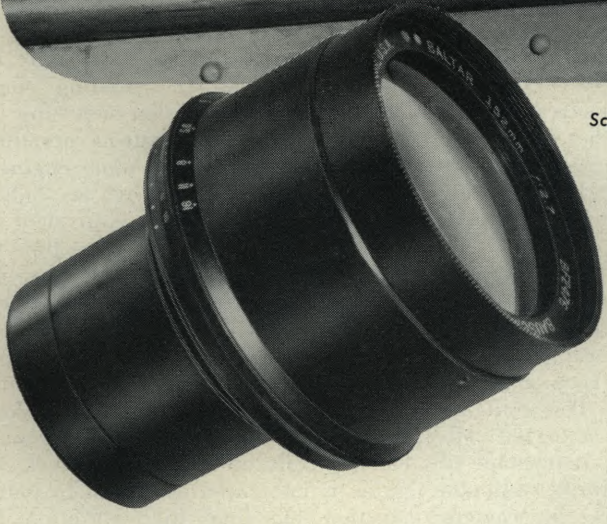

Scene from "A Man Called Peter," 20th Century-Fox CinemaScope Production.*

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CINEMATOGRAPHY IN PARACHUTE RESEARCH

(Continued from Page 275)

cessing of cine film for engineering analyses. Therefore, the role of the Naval Cinematographer is of paramount importance.

The bluejackets who comprise the photographic crews of the Naval Parachute Unit received their basic training at the Naval School of Photography in Pensacola, Florida. Their further and advanced training is obtained through an "in service" program while on duty at the Naval Parachute Unit. Through on-the-job training under expert supervision, these neophytes are taught all phases of photography. By a merit system of grading, individuals are selected for various assignments in the Laboratory. Only those who prove themselves to be particularly skilled, possessed of initiative, and emotionally adaptable are assigned to the exacting work of aerial cinematography.

Since test data must be obtained in most instances without failure due to the inability to reproduce exact test conditions, the naval cinematographer and his equipment must be dependable. To augment the capabilities of the trained individual, the Naval Parachute Unit uses and maintains modern and efficient processing equipment. It also employs a staff of technicians for the maintenance and repair of all camera and laboratory equipment. Due to the special requirements of parachute photography, these technicians also design, develop and construct conversions for standard cine cameras to suit the particular needs of the tests being conducted.

It is only through the media of cinematography that quick, concise, positive and informative data can be quickly and easily presented to the parachute research engineer for study and analysis. Without the valuable contribution of the cameraman there would be no definite meaning to "Jumper Away!"

'ELECTRONICAM'—TV-FILM CAMERA

(Continued on Page 280)

quate signal for monitoring and studio direction purposes. There is no problem in changing from monochrome to color film operation, according to DuMont engineers. The excellent sensitivity of the image-orthicon camera, they point out, permits the use of all conventional photographic emulsions in black-and-white or color with practical amounts of studio lighting.

The other version of the "Electronicam" system pickup unit is suited to the requirements of the TV broadcaster, providing a direct film recording while a high quality studio television signal is simultaneously broadcast. This unit operates on the principle of a shared optical system where a major percentage of the light passing through the common optics is transmitted to the film camera and a minor portion is reflected to the image-orthicon tube in the television camera. The sharing ratio of the light between the two optical paths is determined by the film sensitivity, the image-orthicon sensitivity, and the studio lighting. These principles are common to both black-and-white and color operations.

DuMont employs image-orthicon cameras in its "Electronicam" system because, as they point out, "the superior performance and versatility of the I-O tube permits a much wider variety of shots and effects than the less sensitive camera such as the vidicon."

Another advantage in the use of the high-definition signal delivered by the image-orthicon camera is the fact that the I-O matches the existing control units, standard television switching control equipment and matting amplifiers. This, according to DuMont engineers, makes it possible to record an "editing master" film guide (The equivalent of a work print.—Ed.) at the same time that the high-definition film is being shot. This editing master is recorded (Actually kinescoped—Ed.) complete with all wipes, lap-dissolves, fades, super-impositions and other special effects normally processed optically in the motion picture industry—the effects being produced electronically at the mixing panel. This guide is later used as an aid in putting together the final high-definition film version produced by the film camera component of the system.

The entire "Electronican" unit is operated in exactly the same manner as a standard television camera. The focusing control handle, located on the back of the TV camera in the panhandle, has been modified so that it controls the focus of the common lens system. It permits continuous control of focusing throughout the shooting sequence. Thus, the advantages of TV "ad lib" focusing and camera direction are made available to the motion picture cameraman or director. Since both the TV and film cameras receive light through the same lens

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system, the image sent to both cameras is in focus. The camera operator determines the focus by looking at the image in the "Electronican's" electronic viewfinder inset in the back of the camera.

DuMont engineers emphasize that tremendous savings in motion picture production as well as increased quality of product are a possibility because of the instantaneous monitoring of the motion picture cameras afforded by the TV monitors and the electronic viewfinders of the "Electronicam" system. Set-up time can be cut way down, and much of the editing of productions can be done as shooting takes place, just as live TV shows now are "edited" during the process of being picked up and put on the air.

Perhaps the important time-and-money-saving feature of the system for the TV film producer is the "editing master" film, mentioned earlier. This film represents a print of all the "takes" chosen by the director during shooting, and it is complete with all the wipes, dissolves, fades, scene shifts, and other effects which were ordered by the director, executed by the engineers, and which appeared on the monitor as the show was recorded. With this "editing master," it is claimed, final editing of the complete film production can be ac-

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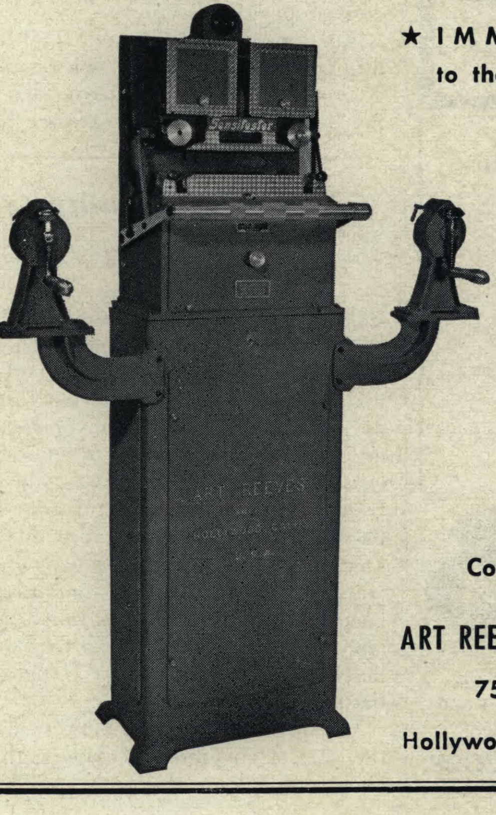

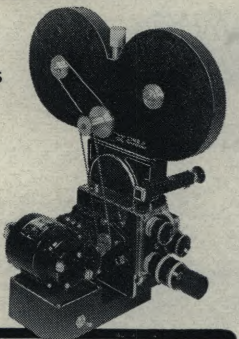

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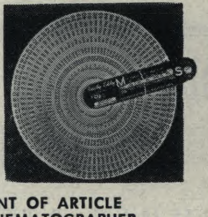

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complished in a matter of hours, instead of days or weeks.

"Electronicams" are to be made available in two models—one for 35mm and one for 16mm films. The 16mm model, which was demonstrated, is capable of loading up to 1200 feet of monochrome or color film—sufficient for recording a thirty-minute program.

The motion picture segment of the pick-up units contain built-in synchronizing bloop lights and are operated from a control panel located at the switching position, which also contains the individual motor controls for each unit and the gang control that makes possible the simultaneous start of all cameras.

During the early stages of testing the new "Electronicam" system, a series of motion picture films were successfully shot under stark and unrehearsed conditions of production. Cameramen who were totally unfamiliar with the equipment were assigned to the cameras for the test runs. They were given ad-lib direction by intercom for camera movement, turret changes, and focus adjustment. The results were screened during the New York demonstration of the system.

The continuous follow-focus feature of the system, its complete mobility, and its ease of lens change—plus the electronic editing and monitoring facets of the system all indicate that it has a definite fuure in the production of motion picture films.

SOMETHING NEW IN CAMERA CRANES

(Continued from Page 278)

person to operate the boom, and I avoided the delays that otherwise are invariably encountered when it is necessary to relay directions to a second party."

Roe pointed to the advantage of the Giraffe over the conventional camera parallel. "You build your parallel, then after you get your camera equipment set up on the top, you may find that it should be a few feet to the left or to the right—which means you have to take down your camera and wait for your crew to relocate the parallel and replace the camera. With your camera mounted on the Giraffe, you simply press a lever and swing the platform instantly to the desired position."

Roe photographed over 1000-feet of film from the Giraffe on this assignment—about 25 separate setups in all—showing the cars in action on grades to demonstrate Buick's renowned nimbleness on hills.

"Here the Giraffe was particularly useful in enabling us to inject a pictorial impact into shots showing the Buicks in action on the road," said Roe. "As the acompanying three photographs show, the camera was operated from a wide range of heights. In a shot of a Buick coming up a hill, for example, we would begin it with the camera elevated to maximum position. Then as the car approached, I lowered the boom and at the same time rotated it as required to climax the shot in a screen-filling closeup of the moving car."

More intimate closeups showing the fine interior appointments of the various Buick models were completed on the sound stage at Hal Roach Studios in Culver City. (See cover photo—Ed.)

PHOTOGRAPHING THE MOBILGAS ECONOMY RUN

(Continued from Page 281)

shot 5,000 feet of black-and-white film, and a thousand feet of 16mm color film.

"My instructions were to cover as many of the cars in action on the 'run' as possible, to show their performance on grades, in the desert, in snowstorms, etc. A major objective was always to frame the cars against picturesque scenic backdrops—to take full advantage of scenic spots as they were encountered. Naturally, this made it imperative to keep ahead of the cars as much as possible in order to have time to scout the best locations for camera setups along the route.

"Besides the strictly action shots of the cars, I covered the drivers, the officials, etc., along the route and at the various control stations to round out the picture story."

Dyer varied his shots as often as possible—panning, following, pulling away, etc., a matter that required a lot of imagination, planning, and quick thinking.

Some thirty hours after the cars left Los Angeles, the leaders began to arrive in Colorado Springs. It was mid-afternoon on March 16. Shooting the presentation of trophies to the various drivers in front of the Broadmoor Hotel was the windup. "It was bitter cold," said Dyer, "but all my cameras worked perfectly. Luckily, they had been 'winterized' in advance in anticipation of this cold weather encounter." **END.**

COMBINING BLACK-AND-WHITE WITH COLOR

(Continued from Page 288)

tegration may be employed, and the aim, of course, should be to avoid abrupt transitions from black-and-white to color. The simplest way is to insert a slow fade-out and fade-in or a slow wipe. The fade or wipe should cover a period of at least 6 seconds from beginning to end. These transitions can be made even after the film has been developed with fotofading dyes (sold in photographic stores).

An even better solution is what I call "intercut tinting." I have used this method in an 8mm film of a city's attractions containing a sequence which ran as follows and illustrated in the photos on page 288.

1.) Black and white shots of a ballet.
2.) The moving beam of a spotlight—gradually changing from white to red.
3.) Circus scenes in color.

The spotlight scene was obtained by filming lights radiating from the lighting booth located near the roof of an arena—using regular black-and-white film. After the film was developed, it was gradually tinted red so that the begin-

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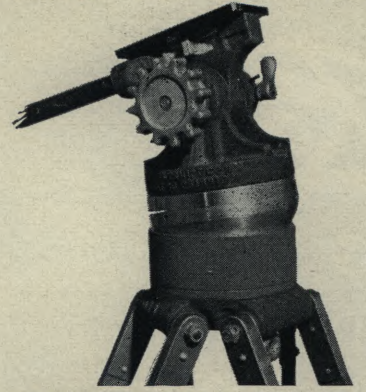

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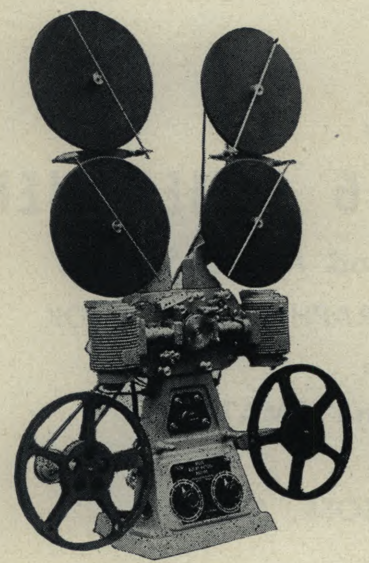

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ning of the scene, spliced onto the black-and-white footage remained uncolored while the rest gradually developed a nice red tone—leading nicely into the color sequence of the circus. In the finished film, the change is very natural—appearing as if the lighting electrician had inserted a red filter before the spotlight. The same method could be used in reverse—starting in color and gradually fading to black and white.

The procedure for tinting is simple. First soak the film in water for 10 minutes. Then gradually dip it into an approximately 1% solution of an acid dye dissolved in water to which a few drops of acetic acid has been added. The dye is completely dissolved in a small amount of hot water. Add cold water to the proper volume and cool to about 68°F. Concentration of the solution is not critical—a stronger solution merely shortens the tinting time. Maximum tinting is obtained in about 1 minute. Gradual tinting is obtained by gently dipping the film into the solution, as illustrated. The film is then washed, quickly dried and spliced into the film. Satisfactory dyes include the following manufactured by DuPont:

Pontacyl Rubine R or Eosin G for red.

Tartrazine for yellow.

Anthraquinone Blue BN for blue.

By mixing two or more dyes, almost any color can be obtained—blue and yellow resulting in green, etc. Since these dyes color the base of the film, tinting is limited to the light areas of the film (example, the spotlight against a dark background). Regular toners should not be used because they color the emulsion—that is the black and gray areas.

Choose a color appropriate to the subject matter, and for more effective results, a scene containing only black and white areas—no intermediate gray tones. The spotlight beam, as described before, is excellent for this purpose; also a neon sign against a black background. If such scenes are either unavailable or inappropriate for your film material, you can always solve the problem through the use of titles. The best titles for this purpose are made by placing white letters on black velvet.

Back to the subject of the wedding film: a title can be used most effectively to bridge the transition from black-and-white footage to that in color—the last half of the title, of course, being appropriately tinted to harmonize with the first scene in the color sequence to which it will be joined.

Or if the opportunity presents itself, you can make the final shot of the black-and-white sequence of church interiors serve as the transition shot to color. This would be a shot of sunlight streaming through a stained glass window. Tint this, following procedure described above, and intercut it between the black-and-white interiors and the sequence of color shots which you'll probably make of the couple and the wedding guests outside the church following the ceremony.

You need have no doubts about the effectiveness of this black-and-white-to-color transition idea. You can test it easily by applying it to old films in your home movie library, your "stock shots" collection, or that box of discarded footage which you may have been saving.

COLLEGE CREW MAKES TRAINING FILMS

(Continued from Page 282)

camera was particularly useful because it facilitated making revisions on the spot; with this camera there is not the usual delay involved in processing film or making prints. If one of the pictures didn't tell its part of the story adequately, new shots were made until the sequence was visually satisfactory.

These pictures were mounted on a large card for easy viewing and once again teachers and curriculum experts were called in to make suggestions on the organization of the content. After revising and shooting a few more pictures the story board was approved. Using the story board as a guide a visual script was written and a rough narration prepared giving the facts that would appear on the completed sound track. The entire process of scripting was a cooperative one. By working closely with the educational advisors, each step was checked carefully to insure accuracy of details.

As the scripting neared completion many problems relative to shooting were raised. The use of color was carefully planned to insure its greatest possible contribution to the film. A basic color scheme was selected for each of the six types of lettering included in the film. Color planning included backgrounds, clothing, and the materials which were to be lettered, as well as the lettering equipment, paints, inks, etc. Paints and colored poster boards were tested using Commercial Kodachrome having the same emulsion number that would be used throughout the shooting.

Titles were selected and designed to

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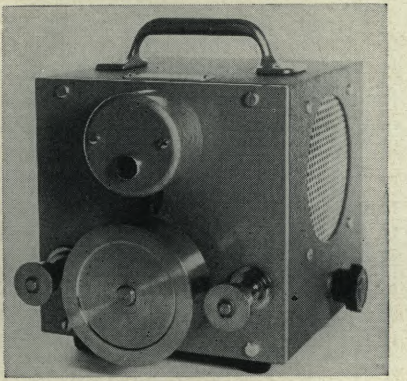

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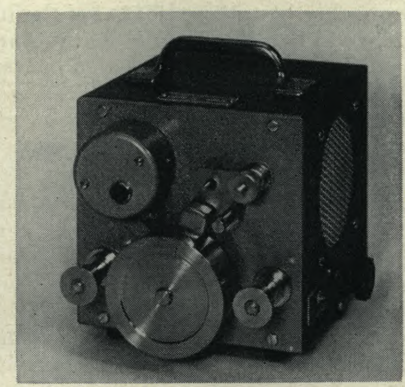

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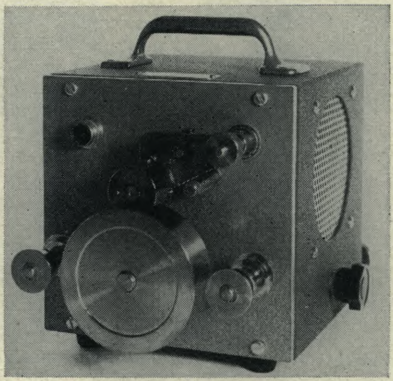

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enhance the film's effectiveness. Posters, charts, and maps were made; six or seven of each were needed to allow for overlap of action, duplicate takes, and the inevitable bad takes. Finally a shooting schedule was prepared, actors were selected, and shooting was underway. For the next few weeks there was plenty of activity in the former printing plant that now serves as a studio. Equipment used included a Cine Kodak-Special on a sturdy studio tripod, five thousand watt spotlight, several 750-watt spotlights, half a dozen 1000-watt spotlights and several clip-on units.

Lighting was planned carefully to assure consistent results. A 5000-watt spot was used as a key light for most of the scenes and six diffused 1000-watt floods served as fill light. Small spotlights were used as needed for additional background light and for accenting important aspects of the subject. During all the studio shooting incident readings of the key and fill lights were taken before each scene was shot. All scenes were lit with a 1:1 ratio and exposure was about f 2.8 on Commercial Kodachrome. A few scenes, extreme closeups that required greater depth of field than could be obtained at f 2.8, were more strongly lit and shooting was done at 16 f.p.s. at f 8.

A few special lighting problems were encountered that added interest to the shooting. One scene was a closeup of an

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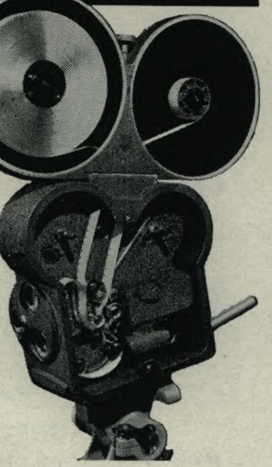

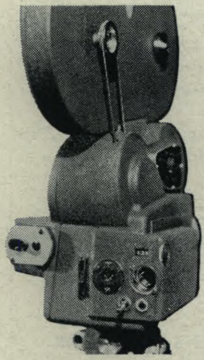

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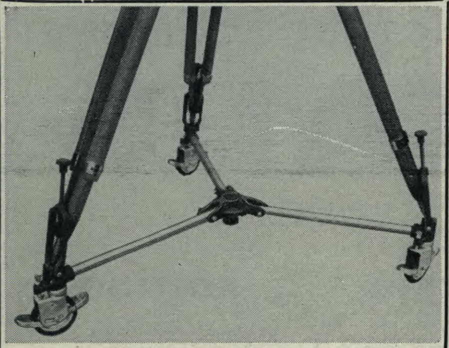

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enlarging easel as a sheet of high contrast film was inserted, the timer button pushed and an exposure made. It was necessary to create the illusion of a room softly lit with red light yet the image had to be white during the exposure. Red cellophane filters were used in front of each of the lights. The enlarger was plugged into a transformer boosting the output of its light source so it gave a satisfactory exposure at f 2.8.

Still another lighting problem was met in a scene showing a teacher using an overhead projector in front of a classroom. It was important that the projected image balance with the light on the subject. The teacher was lit to simulate conditions in an average classroom and an exposure made at the necessary 24-frames per second. During this exposure the projection screen was covered with black velvet. The film was rewound and a second exposure was made with the velvet removed and all the lights turned out except the projector lamp. The second exposure was made at eight frames per second to provide an exposure balance with the live action.

Summary scenes for each type of lettering show sample stencils, rubber stamps, and various kinds of lettering guides. These are immediately followed by pop-on examples of the kind of lettering made by each method. To avoid the usual slight jump at splices these scenes were all single-framed and the examples pop-on smoothly. Studio work was followed by a few location shots that completed the shooting of E. P. 73.

A few days after shooting was completed the original color film was returned from the laboratory. It was carefully checked for color and exposure consistency and sent to the lab for a black-and-white edge numbered workprint for use in editing.

Receipt of a workprint is technically the beginning of the editing process. However, editing often depends on other factors determined during earlier stages of production. Smooth cutting depends on matched action and positioning of elements within the frame. Careful direction and camera work contribute greatly to the editing process. The continuity of an instructional film such as "Lettering" is largely determined in scripting and shooting. Editing is a process of pacing the film within the established framework.

The narration was written after editing was completed and the film shown to the educational authors and other A.V.C. staff members. Following the suggestions offered by some of these people a few minor changes were made. "Lettering" is at this point now. Finally, after carefully checking the narration for factual and grammatical correctness a narrator and background music will be selected.

Narration will be recorded on 16mm magnetic tape. This tape plus the work print will then be sent to the laboratory. The original will be conformed to the work print and an answer print made. Then we will see "Lettering" in color for the first time. After months of cooperative effort between staff and educational authors E. P. 73 will become a reality.

FILMING A 'ROUND-THE-WORLD CRUISE

(Continued from Page 277)

in downpours to capture the action of the ship and crew in sharp rain squalls encountered at sea, and though it has happened frequently, the application of a little oil and a dry cloth has kept them in fine condition. I made a workable rubberized covering for the cameras from a face mask vulcanized to a piece of rubber sheeting. The camera is placed in the bag, the lens pressed against the inside of the face mask, and the open end of the bag is gathered together and made watertight by tying a quarter-inch rubber cord around the end as tight as possible. The rubber sheeting is loose enough to permit winding, change of focus and f-stop, and an outside viewfinder provides a general field of view. The feature I like the most is that the unit floats, making for ease of handling while swimming.

Once when I applied the rubber cord I didn't tie it tight enough and about a cup of salt water leaked inside the bag and into the camera, but it affected neither lens nor film. I took the camera apart, washed it in fresh water, oiled it, and it is as good as new. Being able to do your own servicing like this is a great asset out here where it is imperative to make things do with the limited tools and parts we have to work with. Although ability and resourcefulness is considered a "must" in a sailor's training, these are most vital assets of the field cameraman.

The vagaries of "marlinspike photography" are a constant threat to successful accomplishment; thus newsreel technique is the only plausible method to use for capturing natural, unrehearsed action both on the ship and ashore on primitive islands; the main thing I have learned is always get the action in a hurry, as our stay in most ports is brief. One has to be "anywhere and everywhere" simultaneously, and a loaded camera and a small satchel full of fresh film must always be at hand.

If there is time, I take a meter reading, but more often the f-stop must be a guess, and the distance always so. A Kadisch shoulder brace has been invaluable to me. The trick of letting the ship roll under me compensating for it by movement from the waist up, has solved the unstable horizon problem invariably encountered afloat. A running sheet block may come within inches of a blow on the head, and someone rushing to cast off a halyard does not always see me. Once I was so busy taking a shot aloft that I was nearly pinned between the mast and the foreyard as the yards were hauled around sharply by the watch on deck.

Perhaps, the most dramatic experience in this respect came on a dark, windy night near Pitcairn Island in the South Pacific. Returning to that island from an offshore trip with some Pitcairners, I was one of seven occupants of a 37-foot longboat being towed behind the "Yankee" when the towline parted, leaving us drifting in open sea for over a half hour before the "Yankee" could furl her squaresails and return to search for us. We were as relieved to see her tall spars reappear over the steep swells as if we had been lost for several days; but the pictures I obtained earlier that day from astern at surface level in that rough sea were well worth the experience.

One of the biggest photographic problems at sea, especially in the equatorial zone, is the light intensity. My first experience with this occured during the previous summer's shooting of a Warner Brothers "short" titled, "Mariners Ahoy," featuring Girl Scout Mariners sailing the "Yankee." Because of terrific reflected light intensities off the stark white bulwarks of the "Yankee," the clouds and the sea, I used an incident meter. Tests previously made with the meter on New England coast waters showed that it worked well on board, and the whole film was shot this way with excellent results. However, when we reached the equator on the world voyage, I ran into a surprising tropical light condition caused by the unusual position of the sun. I made an adjustment for incident readings, but not enough. It wasn't until we reached Honolulu three months later that I was able to view the footage just shot and found some scenes were as much as a full stop overexposed.

This brings up the biggest difficulty of all—infrequent lab reports — for we move slowly through seldom traveled areas, and it is often months before we can see the results of our shooting. Because of this added problem, it is necessary to overshoot and get plenty of cut-

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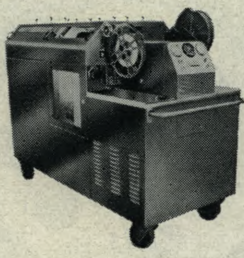

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aways, reaction, and neutral shots, in order to play it safe. I am convinced that a reflected light meter is best for use in the tropics in the conditions under which we have to work. We run the gamut on intensities from the white sails of the ship against brilliant blues of the sky and sea, to the golden soft-skinned Polynesians on the dazzling atolls and the dark, grease-coated "Adams and Eves" in the jungles and mountain areas of Melanesia.

Following action as when the boys harpooned and captured a 3-ton whale in the Galapagos is a real challenge for any photographer, for a meter reading off the stern or from aloft may be f/9 or f/10; abeam, looking down, f/8; while a sudden shift to f/6.3 or f/7 might be required as we come alongside. Closeup shots of deck activity at the same time could drop to f/6 or f/5.6. In such cases, I use a median stop, hoping that time and action will permit another angle for inserts. Such coverage and over-shooting is aimed to give a nicely balanced sequence.

Another problem confronting us continually is that of edge fog. Very rarely does the opportunity to reload in the shade present itself. It is more apt to occur on the water, on deck or on a bright, sandy beach. Evidence of this dreaded bugaboo already has appeared in some of the returned work prints. The invaluable service of a changing bag is fine for both movie and still cameras while on board, but not practical for action photography ashore, for it is only extra bulk to carry and the intense heat created inside produces moisture that is liable to ruin the film.

I find it necessary to work dressed in light clothing with the least amount of equipment possible, carrying my camera by the shoulder brace in one hand, and a light airlines satchel containing film, spare filters and lenses in the other. Everything is geared to permit quick movement and to cut down fatigue on the job. The freedom of movement thus afforded was particularly appreciated when I filmed one of the most interesting events encountered on the whole trip. This was a ritual in the New Hebrides islands when young boys prove their attainment of the courage of manhood by headlong jumps from a platform atop a 75-foot rickety tower constructed of tree limbs and vines.

This is a rite that has been witnessed by only a very few white men, and it was the first time that it had been photographed so extensively with a motion picture camera. The weird ritual lasted fully six hours, and in order to film the action from all possible angles—to capture its full dramatic impact—I had to shoot and move quickly from one place to another at the base of the tower.

This sequence shows twenty-eight Melanesian youths diving, one by one, into space toward the ground below, often from varying heights. Attached to their ankles were lengths of stout vines which snubbed them to a stop just short of inches from the ground.

Beyond the technical problems encountered, the ability to work successfully with the other people on board is important—those who are also taking pictures (for the crew is made up of avid camera fans) and those who are being photographed.

The strange disease known as "tropical fatigue" begins to take its toll after several months, and the close living conditions on the ship don't ease the tension any. Morale goes up and down inversely with the thermometer, and there is a limit to what one can do. For example, shooting interiors requiring hot floodlights just don't go, and due consideration must be given to other photographers. We have learned to cooperate with others, but even the best of intentions have resulted in some beautiful "backside studies."

On board, space does not permit random wandering about the subject, so we first get the long shots, then medium and closeups, not moving from one to the other till all is ready. Naturally, the course of action does not always permit this freedom. It did not take long for the crew to avoid looking at the camera, but try to explain this to the Stone Age Chimbus in interior New Guinea. I thought it would be easy to interest them in their kundus (drums) or spears while they danced, but cinemachinery of the modern age held much more fascination for them; gifts of stick tobacco used for trading purposes brought the eventual solution. Even in civilized countries such as Siam or Indonesia, the problem of communications is a great obstacle, for interpreters are not often available in remote areas, and the result is the need for a director, cameraman, and linguist all rolled into one to speed up production.

There is yet no book written that can provide answers to all the problems and obstacles we encountered. Sound judgment, the old-fashioned method of trial and error, plus the past experience of five world voyages by the skipper have been employed to fullest advantage. It is the challenge of constant changing variables that we meet face to face on the ship as well as on the islands and continents of the world, while we watch for the unusual and unpredictable to occur, that produces the rare and unforgettable thills that I wouldn't miss for anything as a marlinspike cameraman.

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FILMING AUTO RACES FOR "THE RACERS"

(Continued from Page 273)

sand bag its steering cable snapped and it continued to roll forward straight at Phillips. Sensing the trouble, he managed to roll out of the way just as the car thundered past.

One of the major problems in shooting these racing scenes was gaining cooperation from officials and co-ordinating the mechanics of photography with the events of the race. Foreign officials take their racing very seriously and are disinclined to deviate from established protocol for anything as frivilous as the making of a motion picture. As a result, there often were delays and miles of red tape to be unspooled before an actual event could be shot.

The traffic control situation during filming on public roads was also an ever-present problem. Usually the local police were lined up ahead to clear traffic, but on one occasion Phillips was riding camera on a speedy racer that went careening through a tunnel. Just as it came out the other end, a man on a motor scooter appeared directly in the path of the car. With much swerving and jamming of brakes the driver of the car just managed to avoid flattening the unconcerned scooterist. It turned out that the scooter rider was the local chief of police and the officers posted up ahead didn't dare stop him.

The climactic sequence of the film, and one which brings edge-of-the-seat chills and thrills to the audience, is that which portrays the famous Italian "Mille Miglia" (or literally: "Thousand Mile") race. To Europeans the Mille Miglia is more than just a road-race; it is "truly an emotional experience." More famous and more gruelling than our Indianapolis Speedway Classic, the race takes place over 998 miles of the ruggedest mountain roads in the world, stretching in a circle from Brescia to Rome and back. It attracts the best drivers racing the world's best cars, and creates a frenzy of spectator excitement that makes our World Series hysteria seem tame by comparison. Death is a constant co-pilot in the fleet, tiny racers as they scream around the hairpin curves of the Appenines mountains, considered the most dangerous terrain in the world for automobiles.

The problem for Frank Phillips and his camera crew was to capture visually the subjective excitement and danger of this event—to place the audience in the

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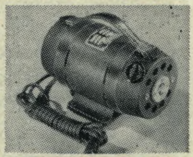

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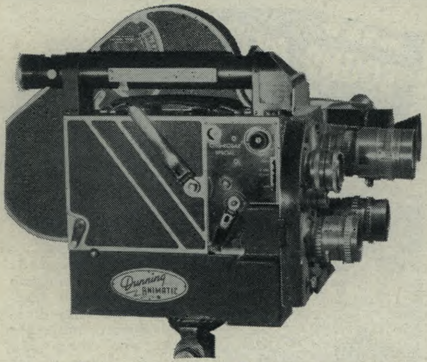

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driver's seat, as it were. It was in quest of such footage that he almost met his Waterloo. He had taken off in a plane to film part of the race from the air, and all was going well until they ran into a violent downpour of rain near Ancona on the Adriatic Coast. The pilot, mistaking a ploughed field for a landing strip, came in for a landing. The plane nosed over and the tail broke off. Luckily, no one was hurt, but the accident put a stop to that phase of the operation.

One of the more hair-raising sequences of this same race shows two cars racing neck-and-neck toward a narrow arch barely wide enough for *one* car. In this scene, John Fitch was doubling the Kirk Douglas character, while de Graffenried doubled the other. The cars stayed side-by-side until the very last moment. Then Fitch forged ahead just in time to squeak through the arch with one coat of paint to spare. Phillips admits that just watching this trick took ten years off his life.

The climactic phase of the Mille Miglia race, as portrayed in the film, presents a situation in which the main character's headlights give out a few miles from the finish line. Instead of quitting, he pulls up bumper-to-bumper behind his closest opponent and uses the lights from the car in front to guide him to the finish.

The technical problems attendant to filming this sequence were enormous. First, because the lights of the racing cars had to show up in proper contrast to the general exterior low key illumination, the sequence could not be shot in the usual "day for night" fashion, whereby a scene is photographed in broad daylight, using underexposure and a blue filter to gain the night effect.

On the other hand, the sequence could not actually be shot at night because the detail of the cars had to be discernible and it was impractical to light them over the vast area they were to travel. It seemed that there was a period of only about 10 minutes at dusk when the waning light was just right for shooting the sequence. The urgency of having to shoot such a difficult sequence in such a short space of time was further complicated by the fact that shooting had to be done on one of the busiest roads in Italy.

The problem of headlights bright enough to burn through the relatively bright exterior illumination at dusk, was solved when Phillips noticed the effect and light quality of aircraft landing lights. He borrowed four of these lights from TWA to shoot the sequence. On the screen the effect is perfect. The authentic atmosphere of night is there, but sufficient illumination is present to make all the details of the scene stand out so that nothing is missed.

Process background plates, which were a part of this assignment, were filmed in the conventional 3-to-4 aspect ratio, using a 35mm wide-angle lens which enabled Phillips to take in a greater spread of angle; at the same time it tended to smooth out any shocks caused by bumps in the road.

For Frank Phillips, "The Racers" was just another in a long series of camera assignments. He "grew up" in the film industry, starting as an office boy in a lab. He spent a total of 23 years at M-G-M. He became an assistant cameraman in 1939, then took time out to join Jonh Ford's special Naval motion picture unit. On returning to M-G-M he became assistant cameraman to Harry Stradling, A.S.C., with whom he worked on the Academy Award winning "Picture of Dorian Gray."

In 1949 he became camera operator for Robert Surtees, A.S.C., and spent six months with him in Africa on "King Solomon's Mines," which also won an Academy Award. After this he found himself in a "musical" rut, working on such films as "Singing in the Rain," "Rose Marie," and "The Student Prince."

At 20th-Fox he shot special footage for "The Egyptian," his favorite sequence being the lion hunt in which he got some spectacular shots of the lions being chased up Red Rock Canyon north of Hollywood. He next worked on some of the early tests of the revolutionary new Todd-AO wide screen process. When he finished his assignment on "The Racers" he went to Venice to film special night chase sequences through the canals for "Lord Vanity." Here, he had an all Italian crew with the attendant language problem, plus the technical difficulties presented by voltage drops, no place to hang lights, etc. The entire canal sequence was shot using four 10,000-watt "Brutes" for illumination.

Phillips spent 9 months of last year out of the country on various film asignments. He has just returned from Tokyo, where he shot footage for 20th's "House of Bamboo." He is now en route to Mexico to shoot cattle stampede sequences for "The Tall Men."

Asked to comment on his present career as daredevil camera specialist, Frank Phillips sums it up this way: "Most of the time you sort of have to feel your way along because there are no precedents to follow. But one thing I've found out for sure is that good shots don't just come along—you have to go out after them."

His work on "The Racers" certainly proves this statement. END

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Neumade Products Corp., 250 W. 57th St., New York 19, N. Y., announces its new catalog No 35 illustrating and describing the company's complete line of equipment for the storage, filing, shipping and editing of 35mm motion picture film. Included are many items which have been especially designed to handle film in television and the new wide screen processes.

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FX Optical Step Printer Data

Animation Equipment Corp., 38 Hudson St., New Rochelle, N. Y., has just issued a new booklet on the company's new Special Effects Optical Step Printer. Copies are available free to those making request on their business letterhead.

THE LITERATURE described above contains a wealth of valuable data for the cinematographer and others in the film industry. Unless otherwise indicated, copies are free. Requests should be addressed directly to the company named — not to American Cinematographer.

— EDITOR.

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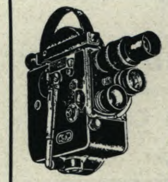
SMALL SUBJECTS, BIG CLOSEUPS

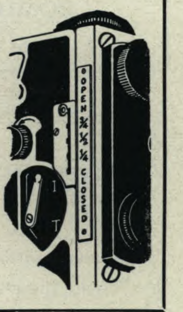
(Continued from Page 286)

photographing insects. I had previously tried artificial light, but in order to shoot at small apertures, the lights would have to be too close, and hence too hot, for my tiny subjects.

My first performer was a large black and yellow garden spider. After trapping him, I placed him on a beautiful red flower mounted on my rotatable stage. But as I started to focus the lens, the spider would move, and he managed to keep out of camera range no matter how I rotated the stage. It seemed that he wanted to be continually on the move. That proved his undoing. I removed him from the flower and placed him on one end of a yardstick. Imme-

(Continued on Page 303)





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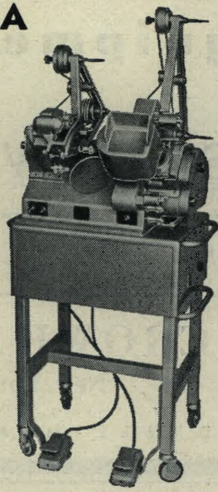

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ALLIED ARTISTS

Ellsworth Fredericks, "The Body Snatchers."

Harry Neumann, "Phoenix City."

Carl Guthrie, "Jail Busters."

COLUMBIA

Burnett Guffey, "Sergeant O'Reilly," (Shooting in Japan).

Charles B. Lang, Jr., "Queen Bee."

Henry Freulich, "The Big Shock."

William Mellor, "Last Frontier," (Technicolor; CinemaScope).

Ray Rennahan, "Marshal of Medicine Bend."

METRO-GOLDWYN-MAYER

Paul Vogel, "The Bar Sinister," (Eastman Color; CinemaScope).

Robert Surtees, "Trial," (CinemaScope).

George Folsey, "Forbidden Planet," (Color; CinemaScope).

PARAMOUNT

Loyal Griggs and Wallace Kelley, "The Ten Commandments," (Technicolor; VistaVision).

Daniel Fapp, "Artists and Models," (Technicolor; VistaVision).

R.K.O.

Joseph Biroc, "Bengazi," (Technicolor; Superscope).

William Snyder, "Treasure of Pancho Villa," (Technicolor; Superscope).

REPUBLIC

Lionel Lindon, "The Gunman," (Trucolor).
Jack Russell, "Deadline Alley."

20TH CENTURY FOX

Milton Krasner, "How To Be Very, Very Popular," (Color; CinemaScope).

Franz Planer, "The Left Hand of God," (CinemaScope and Color).

Leon Shamroy, "A Many-splendored Thing," (CinemaScope and Color).

Lucien Ballard, "Seven Cities of Gold," (CinemaScope; Color).

UNIVERSAL-INTERNATIONAL

Irving Glassberg, "The Rawhide Years," (Technicolor).

Russell Metty, "There's Always Tomorrow."

Carl Guthrie, "Francis In The Navy."

Wilfred Cline, "The Second Greatest Sex," (Technicolor; CinemaScope).

George Robinson, "The Kettles in the Ozarks."

Maury Gertsman, "A Time Remembered," (Technicolor).

William Daniels and Thomas Tutwiler, "Away All Boats," (Technicolor; Vistavision).

WARNER BROTHERS

Harold Wellman, "The Animal World," (Technicolor).

Ted McCord, "The Jagged Edge," (Warnercolor; CinemaScope).

Ernest Haller, "Rebel Without Cause," (CinemaScope).

Hal Rosson, "Pete Kelly's Blues," (WarnerColor; CinemaScope).

John Seitz, "The Darkest Hour," (WarnerColor; CinemaScope).

INDEPENDENT

Harry Stradling, "Guys and Dolls," (CinemaScope; Technicolor), Samuel Goldwyn Prod.

Gil Warrenton, "Charge of the Rurales," (Ansco Color; Wide-screen), R. L. Lippert Prod.

Jack Cardiff, "The Boy and the Bull," (EastmanColor; CinemaScope), King Bros. Prodn.

Leo Tover, "The Tall Men," (Color; CinemaScope).

Joseph LaShelle, "Storm Fear," Theodora Prodns.

Ernest Laszlo, "The Big Knife," Aldrich Associates.

TELEVISION FILMS

Lucien Andriot, "Where Were You?" "It's A Great Life," and "The Life of Riley."

Joseph Biroc, "Dear Phoebe."

William Bradford, "Gene Autry."

Norbert Brodine, "The Loretta Young Show."

George E. Clemens, "Schlitz Playhouse of Stars."

Robert DeGrasse, "Make Room For Daddy," and the "Ray Bolger Show."

George Diskant, "Four Star Theatre."

Karl Freund, "I Love Lucy," December Bride," and "Our Miss Brooks."

Frederick Gately, "This Is Your Music," "Cavalcade of America."

Sid Hickox, "Willy."

Sam Leavitt, "The Halls of Ivy."

Jack MacKenzie, "Public Defender," and Passport To Danger."

Virgil Miller, "You Bet Your Life."

Hal Mohr, "Life With Father."

Nick Musuraca, "Lineup."

Kenneth Peach, "Steve Donovan, Western Marshal," "Gangbusters."

Robert Pittack, "The Lone Ranger," and "Private Secretary."

Mack Stengler, "Liberace Show," "Florian Zabach Show," and "It's Fun To Reduce."

Harold Stine, "Superman," and "Korla Pandit show."

Alan Stensvold, "Andy's Gang."

Walter Strenge, "Waterfront," "My Little Margie."

Philip Tannura, "The Burns and Allen Show," and "The Jack Benny Show."

Stuart Thompson, "The Whistler."

Lester White, "Judge Roy Bean."

Harry Wild, "Bob Cummings Show."

SMALL SUBJECTS, BIG CLOSEUPS

(Continued from Page 301)

diately he started walking toward the other end of the stick; and when I turned the stick around, he turned and retraced his steps. These long, 36-inch walks soon began to tell on him and finally he slowed to a complete stop—completely pooped out. In this state of near exhaustion he wasn't likely to roam around the flowers on the stage, I reasoned, so I put him back on "the set," made my shots, varying my camera angles, then returned him to his web in the garden.

The next garden denizen to go before my camera was a lizard. Not only did I want to shoot him in closeup, but I wanted to photograph one of his eyes so that it would entirely fill the screen. But he had different ideas. No matter how I placed him on stage, he would jump off and scamper away. I reasoned that there must be a limit to his daring and jumping ability, and that if I raised my stage platform high enough from the ground, he'd probably think twice before diving off.

I mounted the stage atop a 12-foot pole, and placed the lizard upon it. Sitting on a tall ladder next to the pole, I prepared to get the shots I had planned. The lizard would scamper to one side of the stage, peer over to the side, then scamper over to the other side. He evidently was too much of a coward to attempt the jump and he settled down in a contemplative mood. While he was in this immobile state, I focused my camera for the ultra-closeups I wanted, made the necessary shots, and then dismissed my subject after gently lowering him to the ground.

Shots of ladybugs were next on my agenda. Perhaps the best time to make movies of these creatures is when you're having a cocktail party; the ice cubes come in handy for freezing and immobilizing the bugs. Before I discovered this, I had placed a ladybug in the center of a flower of contrasting hue, hoping to film it as it wandered slowly over its delicate petals. But like the spider and the lizard, a movie career meant nothing to her and she kept on the move continuously. Imagine trying to get a bead on such a subject with your camera! It got me down, you may be sure.

I had to figure some way to slow the gal down—make her sleepy perhaps? Then I recalled how I had observed ladybugs on the shady side of the house during early morning hours, just barely moving along, and I figured lowering her temperature would probably do the trick. I brought out a tray of ice cubes and put the ladybug on one. I left her there for about a minute, then transferred her to a flower on my shooting stage. She remained fairly immobile for about 20 seconds—just long enough for me to get the key shots I wanted. Then as she became more alert and started to move out of the scene, I continued shooting for the total footage required for this sequence.

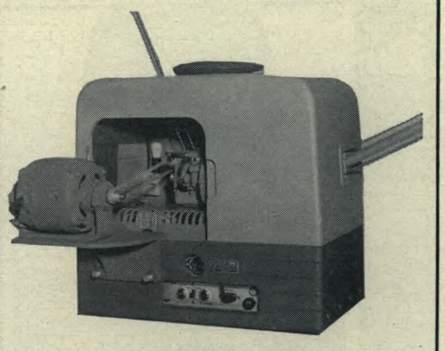
The grasshopper proved an unusually difficult subject to film. No matter what succulent tid bits I provided him, he seemer to prefer hopping to eating. Something had to be done about those powerful legs of his! The answer? Scotch tape. With this I secured both of his hind feet to the platform and covered them with leaves. After a moment or two of struggle, he settled down and remained still long enough for my camera to make the shots I wanted, including a big super-closeup of his mouth.

Still another insect that presented a problem was the katydid. Similar in appearance to a grasshopper, he is slimmer and all-green in color. I kept one a prisoner for a week and fed him canna lily petals and honey. He became quite tame in a very short time and because of his cooperation, was soon made the star of my picture. He figures prominently in the running gag I injected into the film—about which there will be more later.

While I was preparing to film the katydid, I accidentally got some of the honey on the back of his neck. This started him washing his face and neck with his forefeet—much as a cat does. Naturally I shot this unusual action; on the screen, the tiny drops of honey appear like early morning dew.

And so it was with the rest of the insects. . . . each presented individual problems and I had to figure out new ways and means to make each insect move or stay in the frame of the picture without injuring him.

The last insect I filmed was the honey bee. For a while I was about to give up, because no matter what I did I couldn't get the bee to remain in one place for any length of time. He was so busy going from flower to flower that nothing seemed to interest him except making honey. This gave me an idea. Why not help him? So I placed some honey on the tip of a toothpick and attempted to feed him. About four bee stings later, it dawned upon me that the bee was not interested in eating honey that was already made. . . . his purpose was to make it. Suddenly he landed on a flower and stayed there. I immediately saw what the trouble was. In trying to feed him honey, I had gotten a few drops on his legs and he was trying to wipe the honey off. I immediately went into action. I brought him to my small



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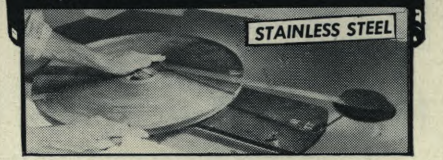

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stage and got all the shots I needed. I believe it took him nearly half an hour to completely clean himself before he flew away.

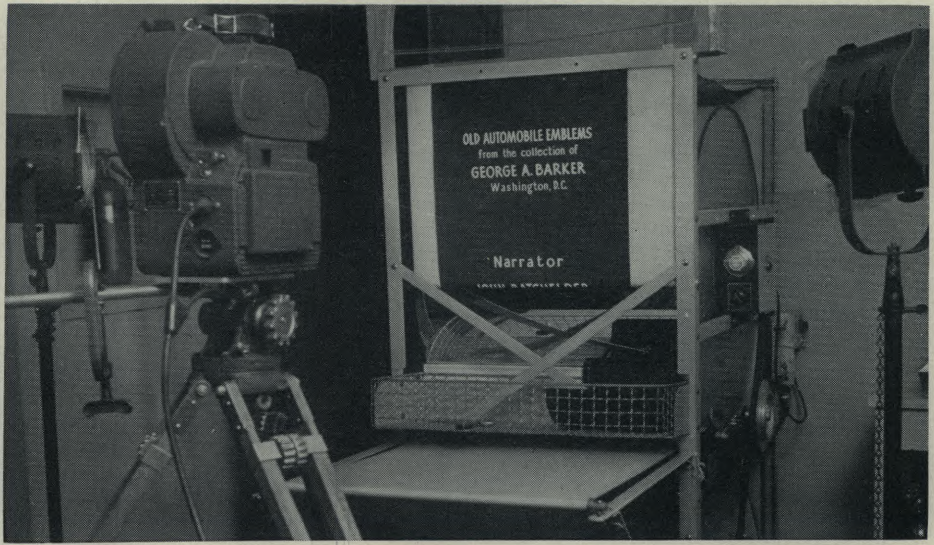
After filming the insects, I decided to inject a running gag into the film to enhance the continuity of my story. Thus the film, titled "The World Around Us," opens with a man seated in his back yard on a Sunday morning, reading Flash Gordon in the comics section. Insects are then shown and the man finally goes to sleep. Scenes of various other insects are shown ending with a katydid. Then a cut to the forehead of the sleeping man on which a katydid had landed, just above his eyes. (This was the pet katydid I had trained earlier). The man awakens and runs into the house and comes out with a shotgun, followed by his wife. She asks him what he is hunting for and he says he saw one "that big," indicating with his hands. The picture ends with the wife telling her husband that he won't be reading Flash Gordon again, because she is cancelling their subscription to the newspaper.

All closeups of insects were filmed with a Cine-Special camera using single-perforated Kodachrome film. (In sunlight, the average exposure was f/6.3 at 24 f.p.s.) The film was then rewound and rethreaded in my Auricon-Pro-single-system sound camera where the sound track for the musical background was recorded. The lip-sync dialogue shots involving the wife and husband were shot and recorded simultaneously with the Auricon.

Filming the garden insects proved quite an unforgettable experience. I discovered they could be as unpredictable as humans. Invariably my insect actors would do things they were not expected to do. Like the time I started to film a large black-and-yellow caterpillar; I placed it on a flower and then moved the camera in very close to set focus and framing. But when I looked in the finder, my subject was missing. I examined the flower and its foliage carefully, and looked under the stage, but he was nowhere to be found. Or so I thought until I chanced to adjust my lens for the next shot and saw some fuzz sticking out of the sunshade.

There, curled up snugly inside the lens shade was my truant actor. What luck to have found him then, before he had a chance to ruin the shots that were to follow! **END**

Print Dryer Makes 'Rolling' Titles



A Rotary dryer, such as used in photo finishing establishments for glossing and drying prints, makes an ideal device for making traveling or continuous titles, as shown in photo above.

Titles lettered or printed on long strips of paper can be taped to the cloth belt of the dryer. The title strip will move with the belt up and over the dryer drum, and the speed of travel can be regulated by the rheostat which is a part of the equipment.

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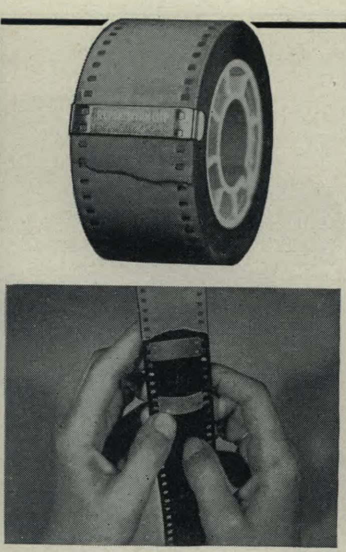

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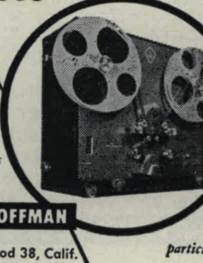

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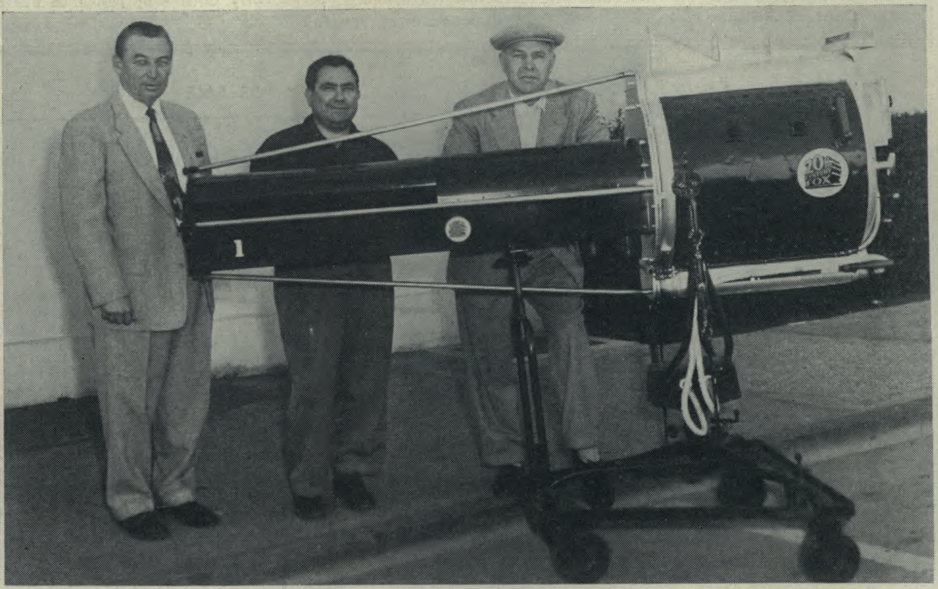

Shown above with the Zoom Follow Spot they created are, left to right, Dave Anderson, Head of Electrical Production, 20th Century-Fox Studio; Vic Machado and Tom Smythe.

IF YOU'RE WONDERING what an atomic cannon is doing with a Twentieth Century-Fox label on it, you can relax. The long-barrelled artillery piece you see above is not an artillery piece at all but the new Zoom Follow Spot, developed at TCF by electrical production chief Dave Anderson with the help of Tom Smythe of the machine shop and Vic Machado of the sheet metal shop.

The development of the Zoom spot is another case of necessity mothering invention. Several of the numbers in "No Business Like Show Business" required the use of a 10-foot spot that could travel from 25 to 70 feet out and stay in sharp focus. No such piece of equipment existed. More than that, it was generally believed throughout the industry that such a light was an impossibility. However, maybe no one told Dave Anderson and his crew it was impossible, because they went ahead and produced one.

First they went to Dr. Armin Hill of the Motion Picture Research Council and he developed a set of experimental lenses. Then a problem arose. The 10-foot spot had to have a strength of 1200 foot candles of light, but to achieve a spot that powerful an arc had to be used instead of one of the incandescent lights now in general use. However, an arc light has a color temperature of 6100 degrees Kelvin. To make the light workable for color productions, the color temperature had to be reduced to 3350 degrees. Another impossibility, they said. But a young man named Bob Frazer, who works for Pacific Universal Products Corporation in Los Angeles, didn't believe in "impossible" either, so he went to work and came up with a lens coating that did the job.

The long barrel-like projection houses five lenses: A quartz condenser, a pyrex condenser, a pair of motor-driven lenses on an endless chain for the Zoom effect, and an object lens.

The spot pulls 225 amps of current and puts out a quantity of light greater than has ever been achieved in a lamp of this type before. It wasn't supposed to be possible, but there's the lamp, and thre you are. They just don't hardly make Electrical Production departments like the one at Fox any more.

Photos and text courtesy Editor of "Action," 20th Century-Fox Studio Club publication.

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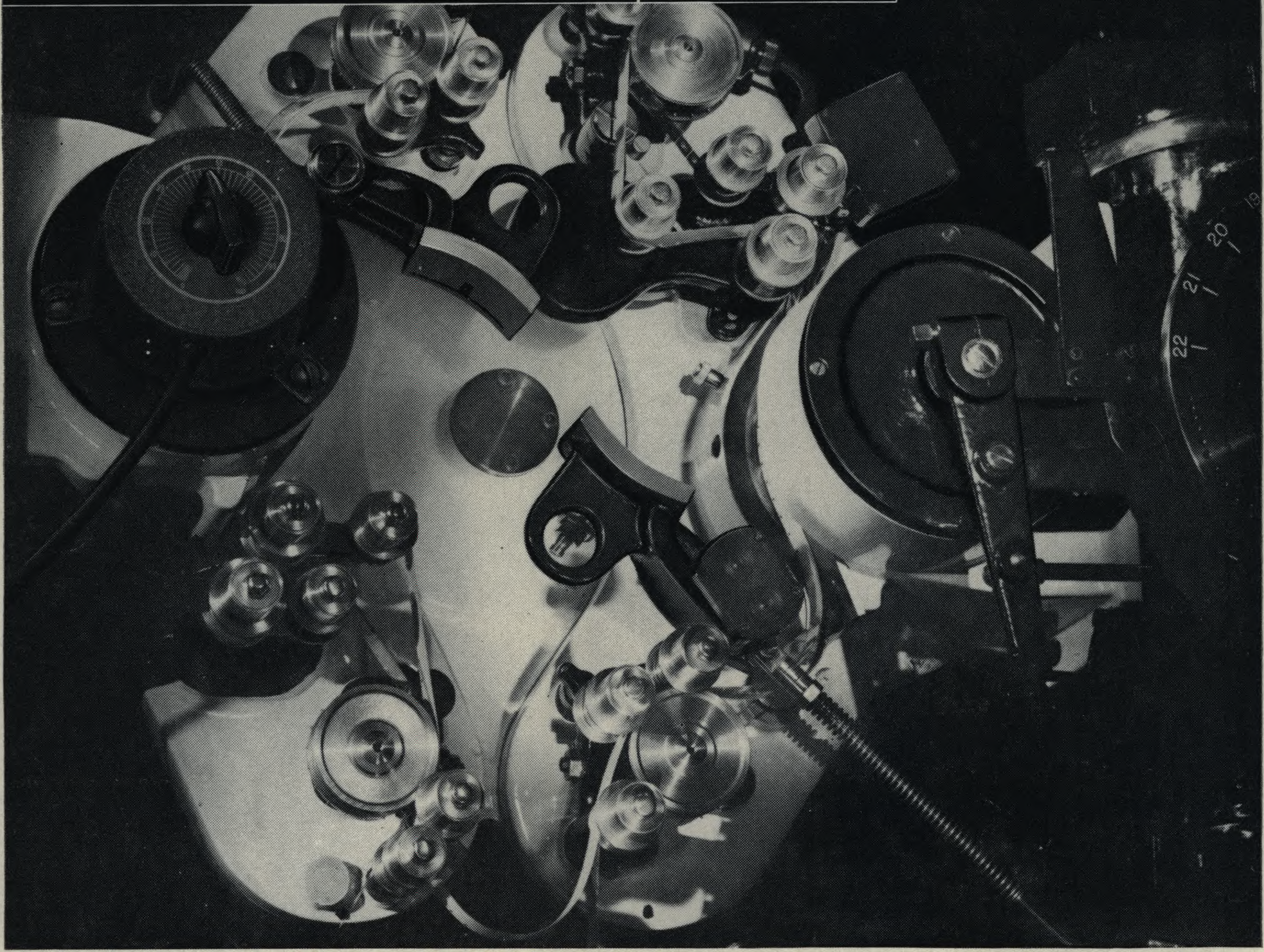
ADVANCE ENGINEERING REPORT | PRINTERS



Close-up of the "business" end of the new Bell & Howell double-head printer

Now—the only double-head printer designed as a fully integrated unit

Here is another step forward in Bell & Howell's year of printer progress. This is the Design 5205 double-head printer, "heads above" all others in quality reproduction of sound and picture.

This new design does not merely combine two separate heads. *It is one precisely engineered instrument.* Vital parts have been re-designed for better contact at the printing apertures. Brand new features include printing sound-drum assembly, sprockets with improved tooth pitch, stripper plates.

Model D and J printers will come with double-head assemblies. Outstanding features of the new Bell & Howell double-head printer will be available also as modifications to existing printers.

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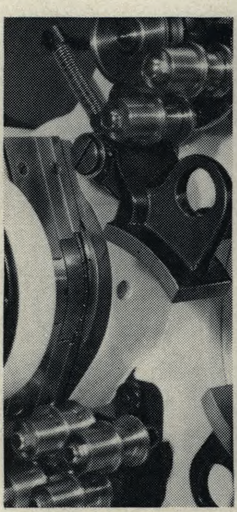
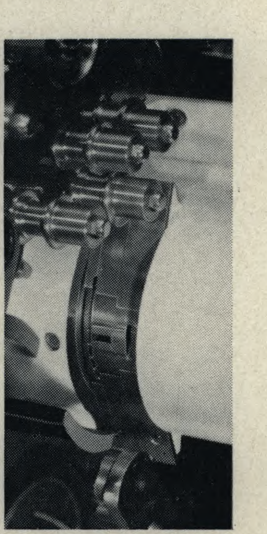


SOUND APERTURE



PICTURE APERTURE

For full information about Design 5205 double-head printer, write Professional Department, 7148 McCormick Road, Chicago 45, Illinois.

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